



**Health
Information
and Quality
Authority**

An tÚdarás Um Fhaisnéis
agus Cáilíocht Sláinte

Regulation of
Health and Social
Care Services

Overview report of HIQA's
monitoring programme against the
*National Standards for Safer Better
Maternity Services*, with a focus on
obstetric emergencies

12 February 2020

Safer Better Care

About the Health Information and Quality Authority (HIQA)

The Health Information and Quality Authority (HIQA) is an independent statutory authority established to promote safety and quality in the provision of health and social care services for the benefit of the health and welfare of the public.

HIQA's mandate to date extends across a wide range of public, private and voluntary sector services. Reporting to the Minister for Health and engaging with the Minister for Children and Youth Affairs, HIQA has responsibility for the following:

- **Setting standards for health and social care services** — Developing person-centred standards and guidance, based on evidence and international best practice, for health and social care services in Ireland.
- **Regulating social care services** — The Chief Inspector within HIQA is responsible for registering and inspecting residential services for older people and people with a disability, and children's special care units.
- **Regulating health services** — Regulating medical exposure to ionising radiation.
- **Monitoring services** — Monitoring the safety and quality of health services and children's social services, and investigating as necessary serious concerns about the health and welfare of people who use these services.
- **Health technology assessment** — Evaluating the clinical and cost-effectiveness of health programmes, policies, medicines, medical equipment, diagnostic and surgical techniques, health promotion and protection activities, and providing advice to enable the best use of resources and the best outcomes for people who use our health service.
- **Health information** — Advising on the efficient and secure collection and sharing of health information, setting standards, evaluating information resources and publishing information on the delivery and performance of Ireland's health and social care services.
- **National Care Experience Programme** — Carrying out national service-user experience surveys across a range of health services, in conjunction with the Department of Health and the HSE.

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Executive Summary

Introduction and background

This is an overview of the Health Information and Quality Authority's (HIQA's) first monitoring programme against the *National Standards for Safer Better Maternity Services* across Ireland's 19 maternity units and hospitals.

Each year, over 60,000 babies are born in Ireland. For most women and their partners, pregnancy and childbirth are safe and are associated with a successful outcome. Sadly, this is not the case for all, and in recent decades some women have experienced serious failings in their maternity care that have revealed significant service deficits.

In 2015, following its investigation into the quality and safety of maternity services in Midland Regional Hospital Portlaoise, HIQA developed service-specific standards for maternity services to drive improvements in the standard of care. *National Standards for Safer Better Maternity Services* were approved by the Minister for Health and published in December 2016.

In October 2013, and again in May 2015, HIQA recommended that an adequately resourced National Maternity Strategy be developed to improve maternity services. In January 2016, the Minister for Health launched the *National Maternity Strategy: Creating a Better Future Together: 2016–2026*. The strategy sets out significant restructuring and reform of maternity and neonatal services over a 10-year period.

HIQA's monitoring programme was specifically designed to assess maternity services under the four themes of:

1. Leadership, Governance and Management,
2. Workforce,
3. Effective Care and Support, and
4. Safe Care and Support.

Taking a risk-based approach to this monitoring programme, HIQA looked at the arrangements and systems in place in each maternity unit and hospital to detect and respond to obstetric emergencies, to identify women at higher risk of complications, and to ensure that ill women and their newborn babies were cared for in the most appropriate setting. Inspections of maternity services began in August 2018 and concluded in September 2019.

Overall summary of findings

Overall, HIQA found high levels of compliance against most of the national standards assessed during this monitoring programme. The majority of maternity units and

hospitals had arrangements in place to identify women at higher risk of complications and to ensure their care was provided in the most appropriate setting. All maternity units and hospitals had arrangements in place to respond to obstetric and neonatal emergencies with response teams available 24/7 — a critical safety measure across maternity services.

Notwithstanding these positive findings, high levels of non-compliance with the national standards were found in two maternity units. Poor findings were identified in leadership, governance and management of each service, and arrangements around staffing, training and audits. HIQA conducted follow-up inspections in these two services which provided assurance that many of the key issues identified had either been addressed, or were in the process of being resolved.

HIQA has made eight recommendations for the Health Service Executive (HSE) in this regard to improve the quality and safety of maternity services now and into the future.

A number of important areas of non-compliance with the national standards also need to be addressed at hospital group level and nationally by the HSE. For example, HIQA has identified shortfalls nationally in:

- the formation of maternity networks at hospital group level
- the formalisation of care pathways for women and newborns
- substandard physical environment and infrastructure of units and hospitals
- inadequate midwifery and medical staffing levels
- low uptake and recording of attendance at multidisciplinary training in the area of obstetric emergencies, cardiotocography (fetal heartrate monitoring) interpretation and neonatal resuscitation, and
- measures to share learning around both good practice and when things go wrong across maternity services.

As the national standards were designed to support the implementation of the National Maternity Strategy, the level of progress achieved in the implementing this strategy is linked to a service's ability to fully comply with the national standards.

Following this monitoring programme, and meeting with national management within the HSE to discuss these findings, HIQA has also made a number of recommendations on implementing the National Maternity Strategy.

Implementation of the National Maternity Strategy

The National Maternity Strategy proposes significant restructuring and reform of maternity and neonatal services over a 10-year implementation period.

While HIQA observed progress had been achieved in the implementation of some important elements of the strategy, it was concerned about the overall level of progress of implementation — for example, levels of funding allocated to implementation, and the governance, accountability structures and arrangements for driving the strategy at national HSE level. In addition, comprehensive planning with aligned costing measures across the full 10-year time frame of the strategy was not in place. HIQA believes that a comprehensive, time-bound and fully costed implementation plan for the strategy is vital to both the strategy's success and safer maternity services between now and 2026.

The National Women and Infants Health Programme, established in January 2017 to oversee the implementation of the strategy, could not, as recently as August 2019, clearly describe to HIQA its role and function within the HSE. Furthermore, the National Women and Infants Health Programme outlined that it was hindered in its ability to drive many of the elements of the strategy without being assigned the requisite accountability and budgetary control. HIQA identified that a lack of clarity around the governance and accountability arrangements of the National Women and Infants Health Programme represented a significant risk to the ongoing and effective implementation of the strategy, thereby also impeding progress with implementation of the national standards nationally.

Towards the end of HIQA's monitoring programme, and following a series of engagements between HIQA and HSE senior management, the HSE took steps to amend arrangements for the National Women and Infants Health Programme. In September 2019, HIQA was informed that the Programme now reported into the Office of the Chief Clinical Officer within the HSE. In December 2019, HIQA was further informed that the HSE Chief Operations Officer held overall accountability and responsibility within the HSE for implementation of the National Maternity Strategy. The HSE also clarified to HIQA that the National Women and Infants Health Programme's role was to oversee the implementation of the strategy, as well as to engage with the services with respect to future planning and service needs.

In December 2019, HIQA was also informed that the HSE had developed a memorandum of understanding (MOU), which was signed by the Chief Operations Officer of the HSE and the Chief Clinical Officer in October 2019. This document sought to provide clarity around roles and responsibilities across the HSE for implementing the National Maternity Strategy and is a very welcome development. The MOU included an intention to form a Steering Committee, chaired by the HSE's

Chief Clinical Officer, to oversee the role of the National Women and Infants Health Programme.

HIQA believes that greater transparency around role clarification between the various offices at HSE national level are necessary to drive a strengthened, coordinated approach to implementing the National Maternity Strategy. However, it is too early to determine the effectiveness of these new arrangements.

It is critically important that work to progress the implementation of this strategy is underpinned by a much more comprehensive approach to planning and funding over the remaining course of this strategy's lifetime. HIQA has made a key recommendation in relation to this as part of this overview report.

HIQA has also identified that in implementing this National Maternity Strategy across the service, the HSE should also consider its relevance to other Government policies — for example, the 2017 Sláintecare report and the National Trauma Strategy — that intend to significantly reform health and social care services. It is important that the HSE, other responsible bodies and policy-makers take careful account of the potential impact on maternity service provision across the country as these policies are implemented. The objectives and actions of the HSE National Clinical Care Programmes should also be considered as part of this planning process.

Leadership, governance and management at maternity unit, hospital and network level

HIQA found that leadership, governance and management arrangements at an individual maternity unit or hospital level were in general well defined, with a named person accountable and responsible for maternity services. Clinical leads in the medical specialties of obstetrics, anaesthesiology and neonatology or paediatrics were assigned in all maternity services. By the end of this monitoring programme, all services also had a Director of Midwifery in position. These were important and positive findings.

The establishment of maternity networks is key to facilitating and sharing of clinical services and expertise. The National Maternity Strategy recognises that smaller maternity units cannot operate in isolation and require support from larger maternity hospitals through the establishment of maternity networks. The *National Standards for Safer Better Maternity Services* support the development and establishment of maternity networks. During its monitoring programme, HIQA found that none of the hospital groups providing maternity care had succeeded in fully establishing a maternity network under a single governance framework. However, some were at more advanced stages of development than others.

While each proposed network presents its own potential challenges in terms of timely formation, it is crucially important for service sustainability that these networks advance beyond their current early states of formation. HIQA believes this requires much more effective national leadership and coordination.

Care pathways for women and newborns

Three care pathways are set out in the National Maternity Strategy – these are supported, assisted and specialised care pathways. When implemented, the service provided through each of these pathways should be made available to all women using maternity services. The supported care pathway aims to provide a model of care for women with normal-risk pregnancies where midwives lead and deliver care supported by a multidisciplinary team. HIQA found that some progress had been made across maternity services to provide a supported care pathway and facilitate choice for women with normal-risk pregnancies. However, progress was relatively limited, and generally predated the National Maternity Strategy. Ensuring greater availability of the supported care pathway for all such women across the service needs to be further progressed as part of the strategy implementation process, without delay.

The availability of fetal ultrasounds during pregnancy is a critically important aspect of antenatal care. It is needed to identify women at higher risk of complications, and to enable access to appropriate services such as fetal medicine experts and multidisciplinary assessment, management and support for the pregnant woman. HIQA found that 14 maternity units and hospitals provided fetal ultrasound services at intervals as set out in the national standards. There were plans in place in the remaining maternity units and hospitals to ensure access to fetal ultrasounds in 2020. It is vital that pregnant women across the country are provided with the same level of access to fetal ultrasound services regardless of where they live or plan to give birth. Plans for access to fetal ultrasound therefore also need to progress to completion as a matter of priority.

HIQA also found that women and newborns were routinely transferred to tertiary hospitals for more specialised treatment, should their clinical condition require it. This is good practice and the formation of maternity networks will further support this practice and lead to formalisation of these arrangements. A mandatory transfer and acceptance protocol ensures that women and their babies are transferred out of their current maternity unit or hospital to the most appropriate healthcare setting within or outside their hospital group, to receive safe high-quality care in a timely and efficient manner, and these arrangements should be in place in all hospital groups providing maternity services.

Physical environment and infrastructure challenges

Poor physical environment and infrastructure across the majority of maternity units and hospitals was a consistent finding throughout HIQA's monitoring programme. When the physical environment is not up to standard, it significantly impacts on a woman's comfort, dignity and privacy and increases the potential risk of cross infection for women and newborns. There is also the potential that cramped, overcrowded and cluttered environments will impede the timely attendance to a woman and or newborns during an emergency.

HIQA notes the plans outlined in the Government's *Project Ireland 2040 National Planning Framework* to progress the co-location of four stand-alone maternity hospitals to the campus of acute general hospitals. This represents a very significant planned investment by the State and is a vital and welcome development. The co-location of the National Maternity Hospital on the campus of St Vincent's University Hospital is the first of four planned co-location efforts, with University Maternity Hospital Limerick, the Coombe Women & Infants University Hospital and the Rotunda Hospital set to follow suit.

The HSE Capital Plan (2019) indicates that design of a new maternity unit at University Hospital Galway was ongoing in 2019, with enabling works planned to commence in 2020. Of the remaining 14 maternity units and hospitals, HIQA found on inspection that one maternity unit was partially compliant and nine maternity units and hospitals were non-compliant with this standard.

Compliance with national standards requires significant investment to improve the current infrastructure and physical environment of most of Ireland's maternity services. Following the publication of this report, the HSE needs to fully evaluate and develop an implementation plan to address the total infrastructural deficits that exist to bring each maternity unit and hospital up to compliance with *National Standards for Safer Better Maternity Services*, *National Standards for Safer Better Healthcare* and the *National Standards for the Prevention and Control of Healthcare-associated Infections in Acute Healthcare Services*.

Where the judgment is that such investment is not feasible, the HSE must clearly articulate their alternative plans, with aligned implementation timelines.

In the short-term, immediate infrastructural risk issues identified by HIQA at the time of inspection in each maternity unit and hospital should be reviewed and resolved without delay.

Key findings related to workforce

In an environment of chronic medical, midwifery and nursing staff shortages, HIQA found that the majority of maternity units and hospitals worked to deliver maternity care which achieved acceptable levels of safety.

HIQA found that maternity services were very reliant on front-line medical staff working onerous rosters and midwifery staff working overtime to maintain service levels. In the long term, should this situation continue in the absence of concerted intervention, such arrangements raise significant questions around sustainability and service safety.

Due to staff shortages, HIQA recommends that a review of the current workforce arrangements in each maternity unit and hospital is carried out to determine the required levels of staff and skill-mix, by profession and speciality, to meet the current and expected future demand for services across the country.

Midwifery and nursing workforce arrangements

Maternity services implemented a number of measures to manage midwifery staffing shortages and to keep maternity services safe. These included a reliance on staff to work overtime, internal rotation and redeployment of midwives and employment of agency staff. HIQA was concerned that national midwifery shortages not only impact on the ability to provide safe, high-quality care but also have the potential to impede progress with the development of the required elements of the three care pathways, especially the supported care pathway, as outlined in the National Maternity Strategy. Delays in this regard would have negative consequences for a woman's choice and experience.

In 2016, the HSE used the Birthrate Plus[®] methodology to establish the baseline midwifery staffing requirement for maternity services in Ireland. This is an evidence-based workforce planning tool used to support service providers in determining midwifery staffing requirements. HIQA found that the tool was not used on a continuous basis by the HSE. Instead, it had been used at a point-in-time, based on 2014 activity levels, to determine required midwifery workforce staffing levels at that time and on an ongoing basis into the future. The use of this tool in this way does not allow for accurate midwifery workforce planning in real time and should be reviewed.

Medical staffing

Despite recruitment campaigns, maternity services experienced difficulty recruiting for approved permanent consultant posts across obstetrics, anaesthesiology, neonatology and paediatrics. During this monitoring programme, 15% to 20% of approved permanent consultant positions in these specialties remained unfilled.

Maternity units that experienced the greatest difficulties with recruiting and retaining consultant medical staff often operated with on-call rosters of less than one in every five nights. This level of on-call commitment by consultant obstetricians, anaesthesiologists, neonatologists and paediatricians is onerous and is unsustainable in the long term.

Furthermore, the level of on-site anaesthetic cover available out of hours in five of the co-located maternity units was found to be contrary to the national standards and national guidelines. HIQA had concerns around potential anaesthesiologist availability in the event of an emergency should more than one occur at the same time across the hospital requiring anaesthetic input. HIQA sought assurances from those hospitals which operated with lower than desirable on-site anaesthetic out-of-hours cover following each inspection. Following inspection, some hospitals put arrangements in place to enhance levels of cover — whereas others determined through internal risk assessment that they had acceptable additional controls in place to tolerate this risk in the context of the level of out-of-hours activity experienced. Such arrangements need to be continually reviewed by all maternity services following this monitoring programme.

Non-consultant hospital doctors – not on a recognised training scheme

HIQA found that many smaller maternity units relied heavily on the work and commitment of non-consultant hospital doctors (NCHDs) — all of whom are registered medical professionals — who were not on a recognised training scheme. Being part of, or completion of, a recognised training scheme is an assurance of the assessed competence of doctors who rotate into a service from other hospitals. These individuals have often remained in post for a number of years providing a vital service and a degree of workforce stability over that time. Reliance on the contribution of these doctors to provide 24/7 maternity services in many parts of the country, in the absence of a formalised training and career pathway, is a potentially precarious situation for service continuity. This issue needs to be more comprehensively addressed by the HSE and medical training bodies urgently.

Training and education of multidisciplinary teams

HIQA found that all maternity services facilitated a multidisciplinary training programme, where obstetricians, midwives and anaesthesiologists were offered a combination of lectures and scenario-based simulation training in obstetric emergencies. Multidisciplinary skills and drills in relation to obstetric emergencies were being provided in all maternity units and hospitals; however, there was little consistency in terms of the frequency of these sessions taking place across services. Training on cardiotocography interpretation (fetal heartrate monitoring) and neonatal resuscitation was also being provided in all maternity units and hospitals.

Furthermore, HIQA found inconsistency in both levels of attendance at such training, and levels of recording of attendance where it had occurred. This finding is contrary to the national standards.

HIQA believes that there is scope for greater standardisation of multidisciplinary training related to obstetric emergencies and cardiotocography interpretation across maternity services. A standardised approach to such training would provide consistent detection and management of obstetric emergencies and cardiotocography interpretation across maternity services. This is particularly important in an environment where clinical staff rotate between maternity units and hospitals.

This monitoring programme has also highlighted that better systems need to be implemented at local and national HSE level to record staff attendance at mandatory training sessions; again, due to the relatively transient nature of clinical staff. HIQA recommends that the HSE develop a means to centrally record training attendance for these staff.

Monitoring and evaluation of maternity service quality and safety

HIQA was assured that maternity units and hospitals were engaged in the ongoing monitoring and evaluation of maternity service safety. Services were benchmarked against other maternity services, nationally and internationally. In fact, HIQA found that maternity services were more advanced in their approach to the systematic benchmarking of service safety, than many other clinical services provided in Ireland.

Maternity services also had systems in place for identifying risks, and senior management had oversight of identified risks at maternity unit and hospital level. In addition, services had systems in place for reporting and managing clinical incidents. However, in some maternity units, there appeared to be some under reporting of clinical incidents. The reasons behind potential under reporting should be reviewed at local level. There was evidence to indicate that all maternity services were undertaking quality improvement initiatives. However, the majority of maternity services did not have a structured and resourced quality improvement programme in place, as required in the national standards.

HIQA found evidence of positive work being conducted at individual maternity unit and hospital level, and also at hospital group level, to both proactively progress the quality and safety of services, and to learn when things went wrong. However, it was also evident that more could be done to improve shared learning across maternity services so as to minimise and reduce the risk of reoccurrence of preventable clinical incidents that may cause harm to women and newborns.

HIQA recommends that the HSE develop a national system that readily facilitates the sharing of learning from the review of clinical incidents across all maternity services to improve outcomes for women and their babies.

Overall conclusion and moving forward

In general, the findings from this monitoring programme provide reassurance around the current arrangements in place to detect and respond to obstetric emergencies across maternity services in Ireland. HIQA found numerous examples of good practice, as outlined in further detail both in this overview report and in each of the 19 individual maternity unit or hospital reports.

At HSE national level, HIQA welcomes the revised governance and reporting arrangements for the National Women and Infants Programme and implementation of the National Maternity Strategy. HIQA believes this will result in greater consistency in the approach taken to implement both the strategy and the national standards at local level and in moving towards the establishment of maternity networks.

With these arrangements in place, the HSE needs to immediately develop a comprehensive, time-bound and fully costed National Maternity Strategy implementation plan, which spans the remaining time frame of the strategy. This plan should include clear governance and accountability arrangements for its implementation, with defined milestones, performance indicators, and named persons with responsibility and accountability for implementing all actions at national HSE, hospital group, and maternity unit or hospital level.

A key component of the National Maternity Strategy is improved access and choice for women, including the establishment of maternity networks and enhanced care pathways for women and their babies. Some maternity services were at a more advanced stage in establishing maternity networks, others were not. The supported care pathway for women with normal-risk pregnancies was not available to all women at the time of this monitoring programme. Interim measures should be put in place in the immediate term at a local and hospital group level to further enhance the experience of women and their babies. In the long run, a cohesive and time-bound approach to the ongoing organisation and establishment of maternity networks should be factored into the overarching implementation plan for the National Maternity Strategy.

It is clear that significant investment is required to improve the current infrastructure and physical environment for most of Ireland's maternity services. The HSE should review maternity unit and hospital specific infrastructural requirements to ensure hospitals are meeting the requirements of national standards and strategy.

HIQA recognises that there have been numerous reviews and reports relating to workforce planning in almost all of the medical specialties and professions providing related to maternity services over the last number of years. Given the ever changing demands on health services and the increasing difficulties with staff recruitment, the HSE — at a national level — needs to review the current medical, midwifery and nursing workforce arrangements in each maternity unit or hospital, to inform workforce planning and meet current and future demand for services. This should be considered in line with other wider national health policy developments in relation to workforce and in working towards compliance with the national standards.

HIQA found inconsistency both in terms of levels of attendance and levels of recording of attendance at mandatory training in relation to obstetric emergencies, cardiotocography interpretation and neonatal resuscitation —contrary to the national standards. HIQA also found that there is a need for greater standardisation of multidisciplinary training related to obstetric emergencies and cardiotocograph interpretation across maternity services.

Finally, maternity services would benefit from a national system to readily facilitate the widespread sharing of learning from the review of clinical incidents across all maternity services. This would help to prevent reoccurrence of incidents and improve outcomes for women and their babies.

The HSE should now consider the overall findings and recommendations of this monitoring programme. Individual inspection reports on each maternity unit and hospital have been published at www.hiqa.ie. Each maternity unit and hospital must address the opportunities for improvement identified at local level, with the support of their respective hospital group, and continue to progress with the transition to a maternity network.

The HSE should develop a plan for implementing the recommendations of this overview report. It should include clear actions and timelines for completion and include named persons with responsibility and accountability for implementation of these actions. This should be considered and implemented in tandem with an updated National Maternity Strategy implementation plan, clearly defining governance, oversight and coordination of both. This will result in a clear and transparent approach to implementation of the national standards and the National Maternity Strategy.

It is imperative that HIQA's eight recommendations are acted upon in a timely manner to ensure that the, generally positive, findings identified around maternity service delivery in each maternity unit and hospital at the time of inspection are not only enhanced, but that they are placed on a more sustainable and equitable footing for women and their babies into the future

Recommendations

Recommendation 1

The HSE must immediately develop a comprehensive, time-bound and fully costed National Maternity Strategy implementation plan, which spans the remaining timeframe of the strategy. This plan should include:

- a. clear governance and accountability arrangements for its implementation, with defined milestones, performance indicators, and named persons with responsibility and accountability for implementation of all actions at national HSE, hospital group, and maternity unit or hospital level
- b. a cohesive and time-bound approach to the ongoing organisation and establishment of maternity networks, in accordance with the criteria defined within the National Maternity Strategy and the features of the *National Standards for Safer Better Maternity Services*
- c. continued alignment with the concurrent planning and implementation of relevant HSE national clinical care programmes and other relevant national healthcare policy objectives, including those outlined in *Sláintecare* and *A Trauma System for Ireland*.

Recommendation 2

The HSE should:

- a. fully evaluate and develop an implementation plan to address where feasible the totality of infrastructural deficits that exist to bring each maternity unit and hospital into compliance with *National Standards for Safer Better Maternity Services*, *National Standards for Safer Better Healthcare* and the *National Standards for the Prevention and Control of Healthcare-Associated Infections in Acute Healthcare Services*. Where the judgment is that such investment is not feasible, the HSE must clearly articulate their alternative plans, with aligned implementation timelines
- b. review maternity unit and hospital specific infrastructural requirements to enable the implementation of specific elements of the National Maternity Strategy, such as the supported care pathway.

The above review and resulting plans should be included within the costed implementation plan of the National Maternity Strategy.

Recommendation 3

The HSE should conduct a review of current workforce arrangements in each maternity unit or hospital nationally to determine the required levels of staff and skill-mix needed in the medical specialties of obstetrics, anaesthesiology, paediatrics and neonatology and the professions of midwifery and nursing. This review should be evidenced based and be used to inform workforce planning to meet current and future demand for services at maternity unit and hospital level and across each maternity network.

Recommendation 4

The HSE must ensure that all clinical staff who are involved in the management of obstetric emergencies have received necessary multidisciplinary training, relevant to their scope of practice, in the areas of obstetric emergency management, cardiocography interpretation and neonatal resuscitation in line with national standards. This will require:

- a. the development of a standardised national approach to the mandatory provision of multidisciplinary training to ensure that all relevant staff acquire and maintain the skills and knowledge to detect and respond to obstetric emergencies and cardiocography interpretation
- b. the development and implementation of a nationally accessible system to maintain live records of training completed by individual staff members.

Recommendation 5

The HSE should support and ensure that each hospital group takes immediate action to formally agree and implement mandatory transfer and acceptance protocols. These protocols should ensure that, when required, women and newborns are transferred out of their current maternity unit or hospital to the most appropriate healthcare setting within or outside their hospital group in a timely and efficient manner.

Recommendation 6

The HSE should develop a national system that readily facilitates the sharing of learning from the review of clinical incidents across all maternity services to improve outcomes for women and their babies.

Recommendation 7

The HSE should review the wording of the maternity patient safety statements currently used by maternity services to remove the word 'patient' from the title and any reference to the Midland Regional Hospital Portlaoise in the purpose and context section.

Recommendation 8

The HSE should develop a plan for implementation of the recommendations of this national overview report. It should include clear actions and timelines for completion and include named persons with responsibility and accountability for implementation of these actions.

Furthermore each individual maternity unit, hospital and hospital group should act to address any outstanding opportunities for improvement identified within their individual maternity unit or hospital report.

Chapter 1. Introduction to HIQA's monitoring programme

Introduction

This overview report by the Health Information and Quality Authority (HIQA) presents the findings of its first national monitoring programme against the *National Standards for Safer Better Maternity Services*,⁽¹⁾ referred to as the national standards. The programme had a particular focus on how services detected and responded to obstetric emergencies.

Under the Health Act 2007 (as amended),⁽²⁾ part of HIQA's role is to set standards on the quality and safety of healthcare services in Ireland and to monitor compliance with these standards. Implementing national standards enables service providers to consistently provide safer, higher-quality care. The national standards were approved by the Minister for Health and published by HIQA in December 2016.⁽¹⁾ The national standards support the implementation of the National Maternity Strategy, which was launched by the Minister for Health in January 2016. The national standards sit within the overarching framework of the *National Standards for Safer Better Healthcare*, and aim of promoting improvements in conjunction with the National Maternity Strategy.^(3,4)

Background

In October 2013, HIQA recommended an adequately resourced National Maternity Strategy be developed to enhance the provision of maternity services and care in Ireland.⁽⁵⁾ However, by May 2015, HIQA found that the development of this strategy had not progressed, and so the recommendation was reiterated.⁽⁶⁾

In January 2016, the Minister for Health launched the *National Maternity Strategy: Creating a Better Future Together: 2016–2026*. The development of the strategy was informed by national and international literature and a public consultation process. The National Maternity Strategy requires a period of significant restructuring and reform of maternity and neonatal services to occur over a 10-year period. The National Women and Infants Health Programme was the entity within the Health Service Executive (HSE) tasked with the responsibility for overseeing the implementation of the National Maternity Strategy.⁽³⁾

When implemented, the strategy aims to deliver a standardised, fully integrated maternity service, providing safe, high-quality care and providing women and their families with a better experience and more choice.⁽³⁾

The National Maternity Strategy recognises that smaller maternity units cannot operate in isolation and require support from larger maternity hospitals. It is expected that such support would be provided through maternity networks. The

establishment of maternity networks would also facilitate the sharing of clinical services and expertise. This would strengthen the resilience of smaller maternity units and support them to provide safer, higher-quality care.⁽³⁾

In December 2016, following public consultation, HIQA published the *National Standards for Safer Better Maternity Services*.⁽¹⁾ These national standards were designed to support the implementation of the strategy and should be implemented in all maternity services in Ireland.⁽¹⁾ Together with the National Maternity Strategy, the national standards will, when implemented, support consistently safe, high-quality maternity care.⁽¹⁾ Both the national standards and the National Maternity Strategy will help inform the public, providers and healthcare professionals about what a safe, high-quality service looks like. This overview report presents the findings of HIQA's first assessment of compliance against the national standards.

HIQA's monitoring programme against the national standards

This programme was designed to assess a maternity service's level of compliance with specific national standards that focused on the systems in place to detect and respond to obstetric emergencies. Pregnancy and childbirth are normal physiological, yet life-changing events. Giving birth to a healthy baby should be one of the most normal, rewarding and positive life experiences for a woman and her partner.⁽¹⁾ For most women and their partners, pregnancy and childbirth are safe and are associated with a successful outcome. Sadly, this is not the case for all, and at times this has been due to service failings.⁽³⁾ In recent decades, maternity services in Ireland and other countries have been challenged by a number of serious patient-safety incidents.^(5,6,7,8)

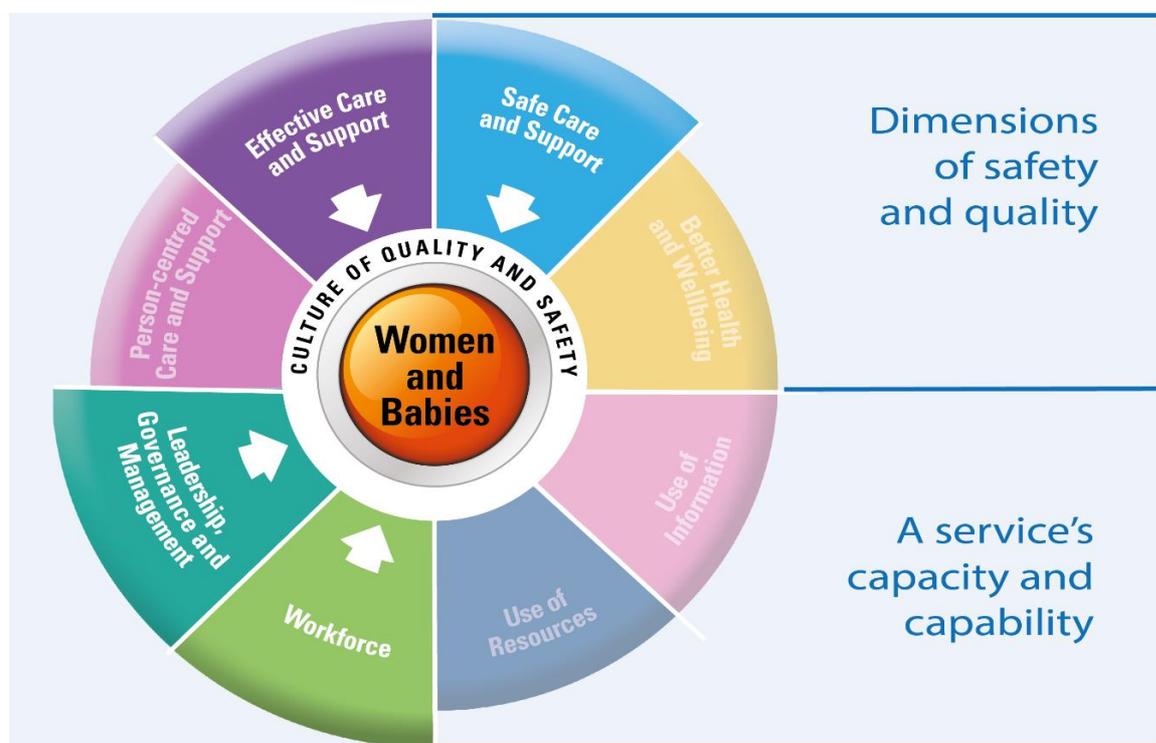
For a minority of women, even those considered to be at low-risk of developing complications, circumstances can change dramatically prior to and during labour and childbirth which can place both the woman and baby at risk.⁽⁹⁾ Women may also unexpectedly develop complications following birth, for example, haemorrhage (severe bleeding) or experience an obstetric emergency. Maternity services and clinical staff must be responsive to the needs of all women, from those who have a straightforward pregnancy to those who experience complications or an obstetric emergency and are in need of extra support. This includes being able to communicate effectively with colleagues, and staff having the necessary experience and competence to provide appropriate clinical support and or a clinical intervention whenever it is necessary.^(10,11)

For the purposes of this monitoring programme, and on the advice of an external advisory group, obstetric emergencies are defined as 'pregnancy-related conditions that can present an immediate threat to the wellbeing of the mother and baby in pregnancy or around birth'.

HIQA did not carry out an assessment of compliance against all 44 national standards but rather focused on 21 national standards that would enable a thorough assessment of the services in terms of their arrangements around leadership, governance and management; workforce; effective care and support; and safe care and support in the context of obstetric emergencies.

The 21 national standards take in both the day-to-day provision of services to individual women (termed the 'dimension of quality and safety' under the national standards) and the sustainable governance of the service (termed the 'dimension of capacity and capability'). The four specific principles of care delivery under the national standards (which are termed 'themes') which this programme focused on are highlighted in Figure 1.

Figure 1. The four specific themes within the national standards which HIQA focused on during this monitoring programme



HIQA considered how women and their newborns were being cared for on a day-to-day basis, with a specific focus on obstetric emergencies, in line with national standards. Under HIQA's assessment framework for monitoring compliance with the national standards, the core elements of this monitoring programme included an assessment of, and report on, a maternity unit's or hospital's arrangements for:

- leadership, governance and management — at local level

- the capacity and capability to identify women at risk of developing complications and to provide, or arrange, for their care to be provided in a more appropriate clinical setting
- resources to detect and respond to obstetric emergencies
- having sufficient numbers of clinical staff, supported with specialised regular training, to care for women and their newborn babies during obstetric or neonatal emergencies.

In addition to an overview of the findings from inspections conducted in each maternity unit and hospital, this overview report also discusses the progress made to date by the HSE's National Women and Infants Programme to progress the implementation of the National Maternity Strategy and the establishment of maternity networks.

This overview report also considers the findings of this monitoring programme in the context of other national healthcare policies and developments, including Sláintecare.⁽¹²⁾ Opportunities for improvement at individual maternity unit and hospital level are contained in the published individual hospital inspection reports.

HIQA acknowledges women's experiences of maternity services were not captured during this monitoring programme which focused on obstetric emergencies. However, the National Maternity Experience Survey, a new nationwide survey to take place in early 2020 will ask women about their experiences. The survey is part of the National Care Experience Programme, a partnership between HIQA; the HSE; and the Department of Health. The survey is separate from HIQA's monitoring role in public acute hospitals. Further information on the survey is available at www.yourexperience.ie.

Survey information will be used to improve the safety and quality of maternity services and the results will be published in Autumn 2020.

Approach taken to HIQA's monitoring programme

This monitoring programme was conducted in three phases from May 2018 to the publication of this overview report and individual service inspection reports in January 2020. A guide to this monitoring programme was published by HIQA in 2018 for women, the general public and maternity service providers.⁽¹³⁾ This includes information on the self-assessment questionnaire issued to individual maternity units and hospitals as well as the documentation and data sought prior to inspections.

An overview of this programme and detailed methodology are included as an appendix in this report (see Appendix A). Membership of the External Advisory Group

is included in Appendix B. Tables of compliance with the national standards for all maternity units and hospitals are included in Appendix C.

Along with this overview report, HIQA has published the individual inspection reports for all 19 maternity units and hospitals, setting out each maternity unit's or hospital's level of compliance with the 21 specific national standards assessed during HIQA's monitoring programme. These are available at www.hiqa.ie.

How this report is structured

This report presents the findings of the HIQA's monitoring programme.

Chapter 2 sets out the structure and profile of maternity services nationally and provides an overview of the strategic plan for maternity services until 2026. Chapter 3 describes the key findings of inspections undertaken as part of HIQA's monitoring programme and Chapter 4 includes HIQA's conclusion and recommendations arising from the programme.

There are also a number of appendices to provide the reader with additional information. References are identified in the text by a superscript number. These references are listed at the end of the overview report.

HIQA would like to acknowledge the co-operation of hospital management teams and all staff who facilitated and contributed to this monitoring programme during the inspections of the 19 maternity units and hospitals.

Chapter 2. Setting the scene

Introduction

On average, just over 60,000 babies are born in Ireland each year across the 19 maternity units and hospitals. The majority of births (99%) occur in a hospital setting with a minority of births (less than 1%) occurring at home.⁽¹⁴⁾

All pregnant women who are resident in Ireland for at least one year are entitled to maternity care under the Maternity and Infant Care Scheme.^{*(15)} The Maternity and Infant Care Scheme entitles women to free care in publicly-funded hospitals during pregnancy, labour and birth and after birth. This scheme provides an agreed programme of care for pregnant women and their babies up to six weeks after birth. Under the scheme, care is provided by the woman's general practitioner (GP) along with a hospital-based obstetrician.

In this overview report, maternity care refers to care provided throughout the pregnant woman's entire care pathway – from conception through to 42 days after birth. This care is delivered through various models of care.

Maternity services refer to the professional care provided to women, their babies, their partners and their families during pregnancy, labour and birth, and after birth. Maternity services are provided by a range of healthcare professionals, including midwives, nurses, obstetricians, anaesthesiologists, neonatologists and paediatricians, medical social workers and physiotherapists.[†]

This chapter sets out the structure and profile of maternity services nationally and provides an overview of the strategic plan for maternity services until 2026. It describes how the services are provided and the systems that support safe and effective maternity care. It also details the current models of maternity care available to women accessing maternity services.

Birth rates in Ireland

Ireland has one of the highest birth rates in Europe.⁽¹⁶⁾ The total number of births[‡] recorded in Ireland for 2018 was 61,084.⁽¹⁷⁾ The 19 maternity units and hospitals

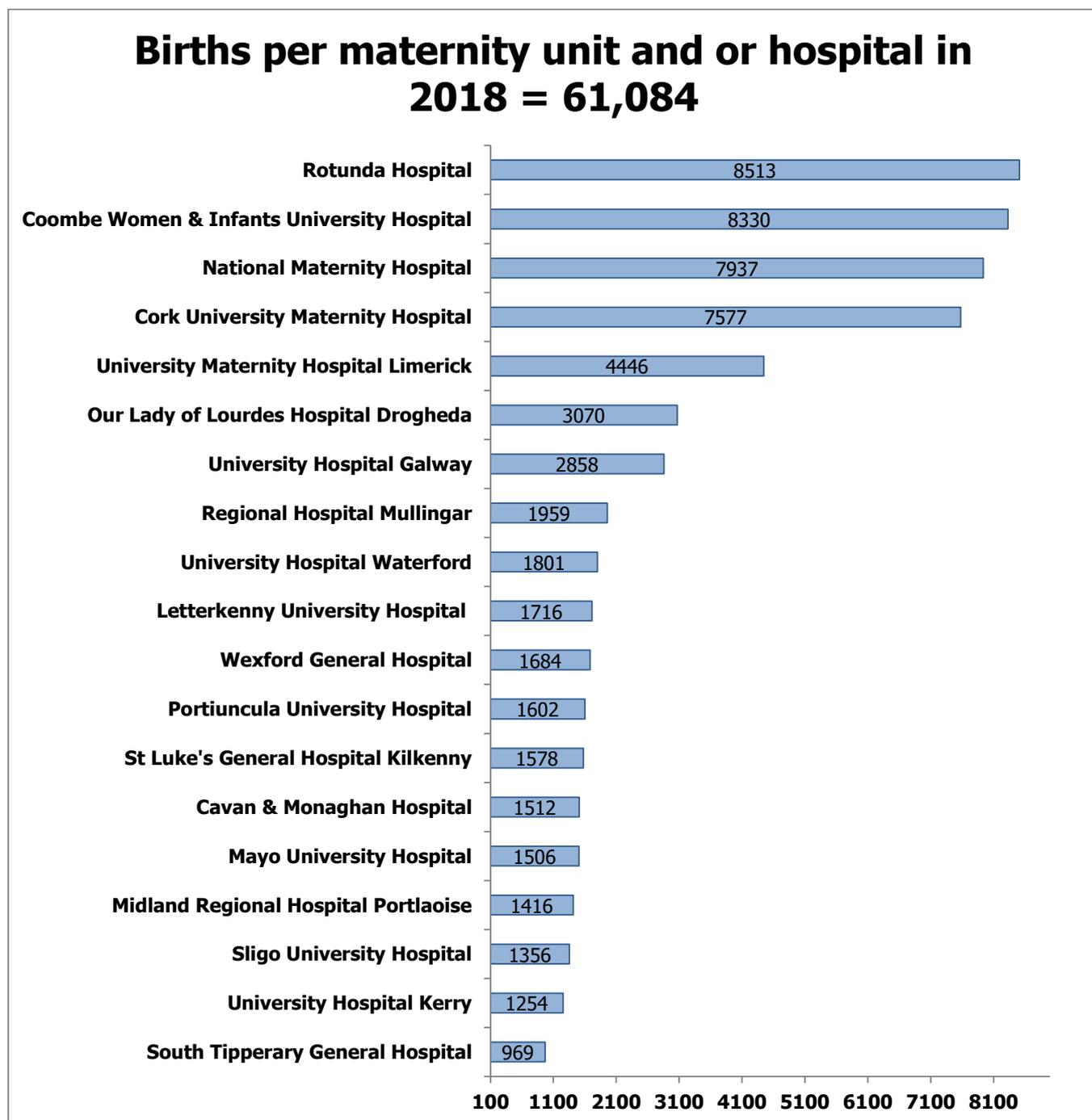
* The Maternity and Infant Care Scheme sets out the providers of the programme of care that are the Scheme. At the time of writing this overview report, the Scheme identifies a woman's GP and a hospital obstetrician as the care providers. A review of the Maternity and Infant Care Scheme is needed to reflect the care pathways proposed in the National Maternity Strategy.

† It also includes other professionals such as general practitioners, public health nurses, pharmacists, and other allied health professionals, including ambulance service personnel.

‡ Total births in this report refer to the number of live births and stillbirths of babies weighing greater than or equal to 500grams.

vary in terms of size and the scale and complexity of services provided. For example, in 2018 the smallest maternity unit had 969 births while the largest maternity hospital had 8,513 births.⁽¹⁷⁾ Figure 2 below lists the total birth rate for each maternity unit and hospital for 2018.

Figure 2. Total births[§] in each maternity unit and hospital for 2018*



* Data source - HSE National Women and Infants Health Programme

[§] Total births refer to the number of live births and stillbirths of babies weighing greater than or equal to 500grams.

Over the past 10 years, Ireland has experienced an overall decline in its birth rate.⁽¹⁸⁾ However, while the number of births has declined year on year, the average age of women becoming mothers for the first time in Ireland is increasing. Pregnancy later in life is associated with increased risk of complications during and after pregnancy.^(19,20) This, along with other factors, need to be considered when providing maternity services.⁽³⁾

Structure and physical environment of maternity services

There are 19 maternity units and hospitals geographically dispersed across Ireland. There are no private maternity units or hospitals – albeit private maternity care is provided in public hospitals across the country. All 19 maternity units and hospitals are funded by the HSE. Figure 3, on the next page, is a map detailing the maternity units and hospital in the Republic of Ireland.

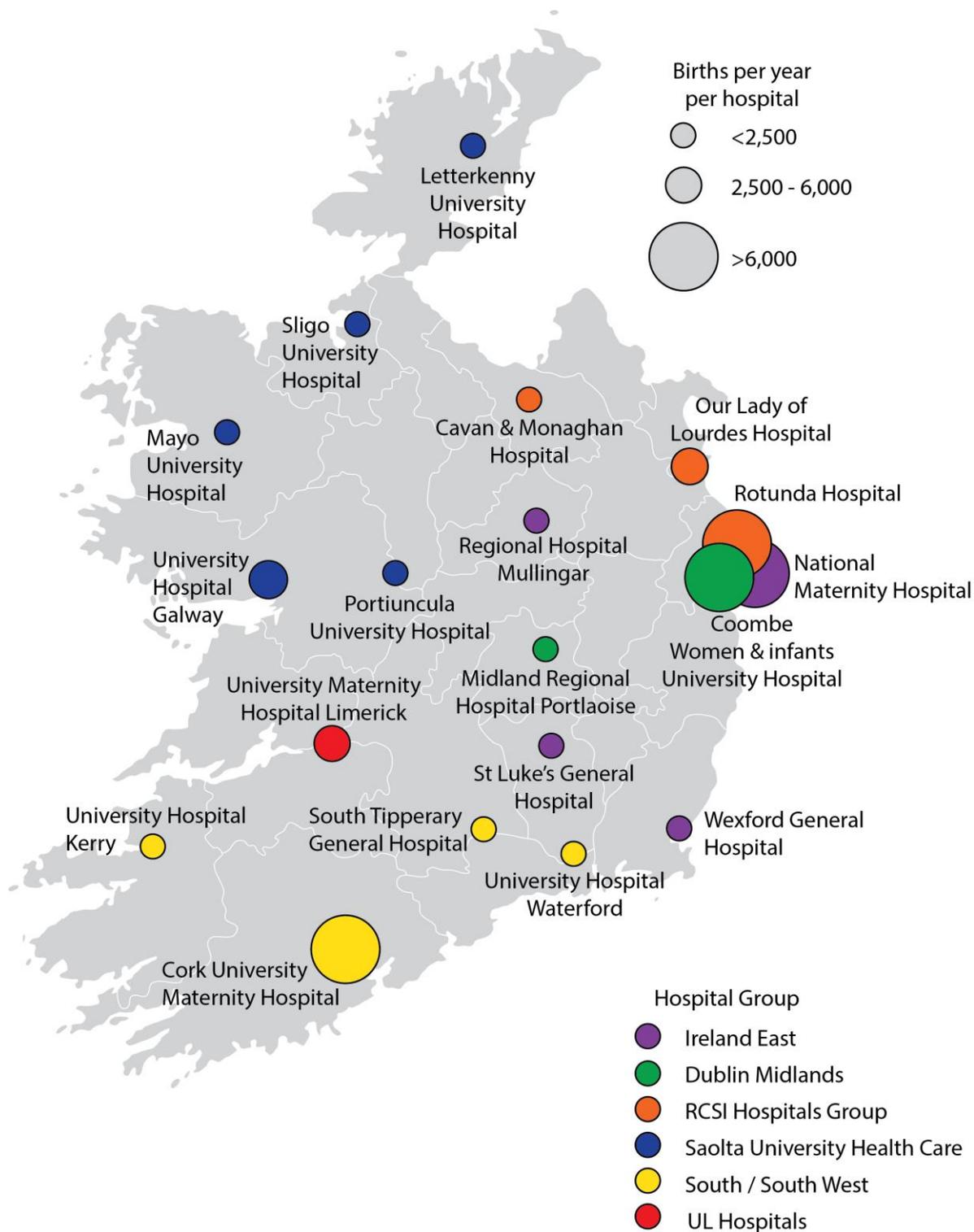


Figure 3. Map of maternity units and hospital groups in the Republic of Ireland, 2017

Three of the larger maternity hospitals are located in Dublin: The National Maternity Hospital, the Rotunda Hospital and the Coombe Women & Infants University Hospital. The combined birth rates of these three maternity hospitals was just over 40% of the overall national annual birth rate in 2018.⁽¹⁷⁾

The three Dublin maternity hospitals are voluntary hospitals,^{**} with each hospital governed by a hospital board.^{††} The boards of each hospital have separately appointed a clinician (known as a hospital master) for a fixed period of seven years. The master has overall executive authority, responsibility and accountability for the delivery of safe, high-quality services within their respective hospital and is accountable to the board of that hospital. In each hospital, the master occupies a dual role of chief executive officer and lead consultant obstetrician and gynaecologist. All three maternity hospitals have service-level agreements^{‡‡} with the HSE, whereby in line with Section 38 of the Health Act 2004, they receive State funding to provide public maternity services on behalf of the HSE.⁽²¹⁾

The remaining 16 maternity units and hospitals located across the country are owned, operated and funded by the HSE. In these hospitals, the general manager is the person with overall executive authority, responsibility and accountability for the delivery of safe, high-quality services. The general managers are accountable to and report to the chief executive officers of the respective hospital group that their maternity unit or hospital is aligned to.

Four maternity hospitals are stand-alone hospitals: The National Maternity Hospital, the Rotunda Hospital, the Coombe Women & Infants University Hospital and University Maternity Hospital Limerick. This means that they are not located on the same site as an acute general hospital with access to the acute hospital's on-site surgical and medical specialties and intensive care facilities. These facilities, when required, are accessed through arrangements with an acute hospital. The remaining 15 maternity units are co-located with an acute general hospital which enables access to on-site surgical and medical specialties and intensive care facilities.

^{**} Most of the income for voluntary public hospitals comes from State funds. Voluntary public hospitals are sometimes owned by private bodies, for example, religious orders. Other voluntary public hospitals are incorporated by charter or statute and are run by boards often appointed by the Minister for Health.

^{††} The governance of the Coombe Women & Infants University Hospital is the responsibility of a voluntary board of guardians and directors that governs the hospital under a charter dating from 1876. The governance of the National Maternity Hospital is discharged under the Charter Amendment Act 1936 and is devolved to an executive committee known as the board. A charter of 1756 outlines the constitution and the roles and responsibilities of the Board of Governors of The Rotunda Hospital.

^{‡‡} Service Level Agreement: a framework for the provision of services, including details of quality and governance requirements.

The Department of Health, the government department tasked with developing and implementing policy for the health services, plans to relocate the four stand-alone maternity hospitals and co-locate them on acute general hospital sites. The plans outlined in the Government's *Project Ireland 2040 National Planning Framework* to progress the co-location of four stand-alone maternity hospitals to the campus of acute general hospitals.⁽²²⁾ This represents a very significant investment by the State and is a vital and welcome development. Plans are advanced for the relocation of the National Maternity Hospital to the campus of St Vincent's University Hospital, and during this monitoring programme it was reported to HIQA that the anticipated date for this relocation is 2023. There are also plans to relocate:

- The Rotunda Hospital to the campus of Connolly Hospital, Blanchardstown
- University Maternity Hospital Limerick to University Hospital Limerick, Dooradoyle
- Coombe Women & Infants University Hospital to St James's Hospital, Dublin.⁽²²⁾

However, the exact time frame for when these three maternity hospitals will be re-located is yet to be definitively determined.

Of the remaining 15 maternity units and hospitals, the HSE Capital Plan (2019) indicated that design of a new maternity unit at University Hospital Galway was ongoing in 2019 with enabling works to commence in 2020.⁽²³⁾ The remaining 14 maternity units and hospitals were not included in the HSE's capital plan. Infrastructural differences exist across all 19 maternity units and hospitals, with the majority of the 19 maternity units and hospitals requiring significant investment to meet current hospital accommodation standards.⁽³⁾

Ireland's National Maternity Strategy

Ireland's first National Maternity Strategy, *Creating a Better Future Together: 2016-2026*, was published in February 2016.⁽³⁾ This strategy sets out the policy, strategic vision and direction for maternity care in Ireland and provides the framework for the remodelling of maternity and neonatal services over a 10-year period.

The aim of the strategy is to ensure that every woman will have access to the right level of care, from the right professional, at the right time and in the right place, based on their need. The four strategic priorities within the strategy are:

- adopting a health and wellbeing approach to ensure that babies get the best start in life
- access to safe, high-quality, nationally consistent, woman-centred maternity care

- pregnancy and birth is recognised as a normal physiological process, and a woman's choice is facilitated
- appropriate resourcing of maternity services, underpinned by strong and effective leadership, management and governance arrangements, and delivered by a skilled and competent workforce.⁽³⁾

A key initial output from the strategy was the establishment of the National Women and Infants Health Programme.

National Women and Infants Health Programme

This programme (as described in the National Maternity Strategy) was established to be the national office within the HSE, charged with providing leadership and governance oversight of the implementation of the strategy from 2016 to 2026.⁽²⁴⁾ The establishment of the National Women and Infants Health Programme saw the funding of a number of key positions, including a programme director; a clinical director who is a consultant obstetrician and gynaecologist; and a director of midwifery.

At the beginning of HIQA's monitoring programme in mid-2018, the National Women and Infants Health Programme reported to the HSE's Chief Strategy and Planning Officer, who had responsibility for overseeing the delivery of health sector government policy and legislation.⁽²⁵⁾

This arrangement meant that the National Women and Infants Health Programme was aligned with the office responsible for strategic planning rather than the HSE's Acute Operations Division, which is the division responsible for the governance and delivery of maternity services in Ireland.⁵⁵ During meetings with HIQA, Directors of the National Women and Infants Health Programme described how this arrangement led to some uncertainty about how the programme would best deploy their resources and expertise to implement the National Maternity Strategy in the absence of being assigned clear authority, accountability and budgetary control. Furthermore, they reported that this ambiguity had hindered the programme's ability to effectively progress the implementation of the National Maternity Strategy.

Given the role of the National Women and Infants Health Programme as outlined in the National Maternity Strategy, HIQA was concerned that there was a lack of clarity as to who at national HSE level had responsibility and accountability for implementing the National Maternity Strategy.

⁵⁵ The National Director of Acute Operations reports directly to the Chief Operations Officer (and Deputy Director General of the HSE). The Chief Operations Officer is the person tasked with responsibility for the overall operational performance management of service delivery within the health service, which includes all public acute hospitals, community care, and the National Ambulance Service.

Over the course of this monitoring programme, HIQA noted that a number of structural changes occurred within the HSE with an intention to further clarify the role of the National Women and Infants Health Programme, their reporting lines, and overall responsibilities relating to the implementation of the National Maternity Strategy. Towards the end of this monitoring programme, HIQA was informed that the National Women and Infants Health Programme had been repositioned, and as of 3 September 2019 it reported into the Office of the Chief Clinical Officer within the HSE.

In addition, HIQA was informed by the HSE in December 2019 that the HSE Chief Operations Officer held overall accountability and responsibility for the implementation of the National Maternity Strategy. The HSE also clarified to HIQA that the role of the National Women and Infants Health Programme is one of oversight of the implementation of the strategy and engagement with maternity services with regard to future planning and service needs.

Furthermore, towards the latter end of this monitoring programme, the HSE also formalised a memorandum of understanding, which was signed by the Chief Operations Officer and the Chief Clinical Officer of the HSE in October 2019. This document sought to provide clarity around roles and responsibilities across the HSE for implementation of the National Maternity Strategy. Included within this MOU was an intention to form a Steering Committee to oversee the role of the National Women and Infants Health Programme. This committee, which will be chaired by the HSE's Chief Clinical Officer, will include representation from the National Women and Infants Programme, the HSE Acute Operations Division, the HSE Quality Assurance and Verification Division and the HSE Quality Improvement Division. At the time of concluding this overview report, it was too early to determine the effectiveness of these new arrangements.

Implementation plan for the National Maternity Strategy

The National Women and Infants Health Programme published an implementation plan in October 2017 to outline delivery of the National Maternity Strategy.⁽²⁶⁾ The implementation of the National Maternity Strategy will be accompanied by a period of significant challenge and change, with national leadership and planning being vital to ensure its eventual success within the 10-year time frame.

During the course of this monitoring programme and up to November 2019, the most up-to-date implementation plan available from the HSE was the plan published in October 2017. This plan contained 77 actions for implementation and had assigned responsible persons and in most instances a defined timeline for completion. For those line items that had an agreed date of completion, the longest projected timeline tended to be the end of 2019. There was no evidence of a broader view of what needed to be achieved over the full 10-year lifecycle of the strategy.

Furthermore, this plan did not include an expected costing for each element of its implementation. It was of concern to HIQA that this initial exercise in formal planning did not appear to have progressed or evolved significantly since October 2017.

HIQA sought specific detail from the HSE about the plans and time frames relating to the implementation of the National Maternity Strategy. On 27 November 2019, the HSE provided an updated implementation plan to HIQA. While this revised plan indicated where work was ongoing, it was not supported by expected costings nor a projected time frame for these actions over the lifecycle of the strategy towards 2026.

HIQA was informed that the HSE's National Women and Infants Health Programme estimated that approximately €75 million would be required to fully implement the strategy over its 10-year time frame. This funding would be required to enhance services and implement the models of care envisaged by the strategy. However, HIQA was informed by the Directors of the National Women and Infants Health Programme that €8.5 million in funding had been provided to the programme for strategy implementation over its first three years. This represents only 11% of the estimated total funding requirement for full implementation of the strategy. On a year-by-year basis, therefore, the level of funding required to deliver the National Maternity Strategy will need to accelerate considerably to enable its full implementation within the anticipated 10-year time frame.

In December 2019, the HSE provided HIQA with a copy of funding estimates for staffing in relation to maternity services over the 10-year time frame of the strategy. However, this document did not include reference to the costing estimates for other elements of the implementation plan.

Given the scale of the changes envisaged by the National Maternity Strategy, the absence of a costed longer-term plan may undermine the strategy's full implementation within the anticipated time frame.

Hospital groups

Operationally, maternity services are provided across six of the seven^{***} hospital groups.⁽²⁷⁾ Each of the six hospital groups with maternity services comprise large and small maternity units and hospitals with the exception of University Maternity Hospital Limerick. University Maternity Hospital Limerick is the only maternity hospital in the University Hospital Limerick Hospital Group. Each hospital group is led by a group chief executive officer who is accountable and reports to the HSE's

^{***} The seventh hospital group, Children's Health Ireland, provides acute paediatric services at Crumlin, Temple Street and Tallaght hospitals.

National Director of Acute Hospitals. A breakdown of maternity units and hospitals in each hospital group is included in Table 1 below.

Table 1. Maternity unit and hospital in each hospital group

Hospital group	Maternity unit and hospital in each hospital group
Ireland East Hospital Group	The National Maternity Hospital, Dublin Regional Hospital Mullingar Wexford General Hospital St Luke's General Hospital, Kilkenny
Dublin Midland Hospital Group	Coombe Women & Infants University Hospital, Dublin Midland Regional Hospital, Portlaoise
Saolta University Health Care Group	University Hospital Galway Letterkenny University Hospital Sligo University Hospital Mayo University Hospital Portiuncla University Hospital
South/South West Hospital Group	Cork University Maternity Hospital University Hospital Waterford University Hospital Kerry South Tipperary General Hospital
Royal College of Surgeons in Ireland Hospital Group	Rotunda Hospital, Dublin Our Lady of Lourdes Hospital, Drogheda Cavan & Monaghan Hospital
University of Limerick Hospitals Group	University Maternity Hospital Limerick

Formation of maternity networks

Findings from previous HIQA and HSE investigations into maternity services identified that the quality and safety, operational resilience and sustainability of clinical services in smaller maternity units should be strengthened and enhanced through the establishment of maternity networks.^(6,28,29,30,31) Adopting an effective network approach to service delivery would result in less fragmentation, more integration, increased efficiency, more effective collaboration and improved clinical knowledge and skills across the maternity network.^(32,33)

Furthermore, the development and establishment of maternity networks is a key part of the National Maternity Strategy and supported by the *National Standards for Safer Better Maternity Services*. The National Maternity Strategy explicitly identifies that such networks are required to support smaller maternity units in particular, stating:

'Smaller maternity services cannot, and should not, operate in isolation as stand-alone entities. They cannot sustain the breadth and depth of clinical

services that the populations they serve require without formal links to larger units.⁽³⁾

The strategy identifies that the formation of networks and the sharing of expertise within these networks will better support the operational resilience of smaller units. The strategy outlines a number of core elements that would be expected in a maternity network. These include:

- a clinical service under a single governance framework
- a common system of clinical governance, such as clinical and management policies, audit meetings, quality assurance, incident reporting, incident management and risk management
- a single quality assurance system operating across different geographical sites, with a requirement that patient safety data to be pooled into this system from across the network
- risk stratification⁺⁺⁺ of mothers attending the network to ensure that women with higher-risk pregnancies are managed in the most appropriate facility within the network
- the ability for all medical and midwifery staff working within the network to rotate between maternity hospital or maternity unit sites in order to meet training and service requirements
- the ongoing training of all doctors and midwives takes place at all sites within the network on a rotational basis
- a cooperative approach to service delivery which ensures that each hospital site within the network delivers care appropriate to the resources, facilities and services available on that site.⁽³⁾

The National Maternity Strategy states that implementation of such maternity networks and the associated governance arrangements in each maternity network should be agreed between the hospital group chief executive officers and the directors of the HSE's National Women and Infants Health Programme.

Along with the establishment of maternity networks, the National Maternity Strategy proposed that women would be offered choice about their preferred pathway of care when accessing maternity services, in line with their clinical needs and best practice. These proposed pathways are described next.

⁺⁺⁺ Identification of risk factors that may impact on current pregnancy management so that women can be cared for as normal risk, medium risk or high risk.

Care pathways as outlined in the National Maternity Strategy

The National Maternity Strategy, which is national policy, sets out three care pathways - supported, assisted and specialised - that should be made available to women.⁽³⁾ Table 2 below describes the three care pathways. At the time of publication of the strategy, all 19 maternity services provided medical-led care whereby maternity care is provided by a multidisciplinary team lead by a consultant obstetrician. Ten maternity units and hospitals were providing a model of care for women with normal-risk pregnancies where midwives were managing and delivering care supported by a multidisciplinary team.^{***(3)}

Table 2. Description of supported, assisted and specialised care pathways

<p>SUPPORTED CARE PATHWAY</p>	<p>This pathway is intended for normal-risk women and babies, with midwives leading and delivering care within a multidisciplinary framework.</p> <p>Responsibility for the co-ordination of a woman's care is assigned to a named Clinical Midwife Manager, and care will be delivered by the community midwifery team, with most antenatal and postnatal care being provided in the community and home settings.</p> <p>The woman, along with her healthcare professional, can choose where to give birth, in an alongside birth centre in the hospital, or at home.</p>
<p>ASSISTED CARE PATHWAY</p>	<p>This pathway is intended for women and babies considered to be at medium risk, and for normal risk women who choose an obstetric service.</p> <p>Responsibility for the co-ordination of a woman's care is assigned to a named obstetrician, and care is provided by obstetricians and midwives, as part of a multidisciplinary team.</p> <p>Care is provided across both the hospital and community, and births take place within a hospital setting in a specialised birth centre.</p>

*** This model of care describes care that is provided by hospital based midwives in a community setting. Examples would include DOMINO and Early Transfer Home models of care where women receive some care in the community during pregnancy and the postnatal period but will give birth in a hospital setting. Two maternity services facilitated home births.

SPECIALISED CARE PATHWAY	This care pathway for high-risk women and babies is led by a named obstetrician, and is provided by obstetricians and midwives, as part of a multidisciplinary team. Care is, in the main, provided a hospital setting and births take place in the hospital, in a specialised birth centre.
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The National Maternity Strategy recognises and acknowledges that the new proposed model of care will require strong and effective clinical leadership at national level, hospital group level, and at local maternity unit and hospital level. It also identifies that the new models of care will significantly impact on workforce requirements and recommends a review of staffing to inform a workforce plan in order to build workforce capacity.

Current models of care available for women accessing maternity services

Currently, maternity services in Ireland are predominately hospital based. The models of care provided in each maternity unit and hospital vary considerably. While all maternity units and hospitals provided a hospital-based model of care, some maternity units and hospitals provided an integrated hospital and community-based model. This means that midwifery staff employed by the maternity unit or hospital provided maternity care in the community. Availability of and accessibility to an integrated hospital and community-based model of care is dependent on the woman's risk status and geographic location. The current models of care available to pregnant and postnatal women accessing maternity services in Ireland are outlined in the following sections.

Midwifery-led care

This model of care is available to women categorised as being at normal risk. There are two midwifery-led units in Ireland co-located on the campus of a medical-led unit. One unit is located in Cavan & Monaghan Hospital and the second is located in Our Lady of Lourdes Hospital, Drogheda. In these units, midwifery care is provided by a team of midwives, and the midwife is the lead healthcare professional responsible for the planning, management and co-ordination of maternity care and services for up to six weeks after birth. This current model of care reflects the proposed supported care pathway described in the National Maternity Strategy.

DOMINO (Domiciliary In and Out)

This model of care is available in the following six maternity units or hospitals: The National Maternity Hospital, Wexford General Hospital, Coombe Women & Infants University Hospital, Rotunda Hospital, Cork University Maternity Hospital and University Hospital Waterford.⁽³⁾ Its availability depends on where the woman lives.

Maternity care is provided by a team of community-based midwives. Antenatal visits take place in a hospital or community setting, with alternative visits occurring with the GP. The woman gives birth in the maternity unit or hospital and is then transferred home within 24 to 48 hours after birth. A team of midwives provide care for the woman and baby at home for up to five days after birth.

Home birth

The National Maternity Hospital and University Hospital Waterford offer a limited home birth service to women classified as normal-risk.⁽³⁾ Women planning a home birth are advised to use the HSE facilitated home birth service. This service is provided by number of self-employed community midwives who have memoranda of understanding with the HSE.⁽³⁴⁾ They provide a planned home birth service to women who meet the eligibility criteria for the service. These self-employed community midwives are indemnified under the Clinical Indemnity Scheme operated by the State Claims Agency.

Early transfer home scheme

This model of care is available in the following six maternity units or hospitals; National Maternity Hospital, Coombe Women & Infants University Hospital, Rotunda Hospital, Cork University Maternity Hospital, University Hospital Kerry and University Hospital Galway.⁽³⁾ Four of these services also provide the DOMINO model of care. Availability depends on where the woman lives. Antenatal visits take place in a hospital and or community setting, with alternative visits occurring with the GP. The woman gives birth in the maternity unit or hospital, and if the woman meets a certain criteria for early transfer home, she goes home within six or 12 hours of birth. Care after the birth is provided by a team of midwives visiting the woman's home for up to five or seven days after birth.

Medical-led care

All 19 maternity services provide medical-led care whereby maternity care is provided by a multidisciplinary team lead by a consultant obstetrician who is responsible for co-ordinating, planning, managing and delivering care. This current model of care is the dominant model of care provided in Ireland and it aligns with the assisted and specialised care pathways outlined in the National Maternity Strategy.

Women can choose to attend for medical-led care either publicly or privately in any of the 19 maternity units and hospitals. A 2017 report states that approximately 15% of women choose to access private maternity care while the remaining 85% of women avail of public care.⁽³⁵⁾

Public health nurse service

Postnatal women and their babies discharged from all 19 maternity units and hospitals are referred to the public health nurse service. Public health nurses^{§§§} promote and support maternal and child health, provide support for breastfeeding, and screen and check children's development. All women and their babies should receive a visit from a public health nurse within 72 hours of discharge from the maternity service.

Current model of care for newborns

The model of care for neonatal services in Ireland published in 2015^{****} by the HSE and the Royal College of Physicians of Ireland describes the model of care intended to ensure sustainability of neonatal services in Ireland.⁽³⁶⁾ It defines how neonatal services should be delivered so that babies get the right care, at the right time, in the right place by the right staff.

Each of the 19 maternity units and hospitals has a neonatal unit. The type and amount of care needed by a newborn depends on the newborn's health and wellbeing. This can range from routine care in a local neonatal unit (level 1) to intensive care in a tertiary neonatal unit (level 3). The distribution of births across the 19 maternity units and hospitals readily allows for categorisation into tertiary (level 3), regional (level 2) and local (level 1) neonatal units. See Table 3 for the location of each type of neonatal unit across the 19 maternity units and hospitals.

^{§§§} In Ireland, in order to be eligible to register as a Public Health Nurse, candidates must complete a post-registration education programme in public health nursing approved by the Nursing and Midwifery Board of Ireland (NMBI). To be eligible for the programme, candidates must be registered in the General Division of the Register of Nurses with the NMBI. Midwifery is not a minimum entry requirement for the programme. Candidates not registered as a midwife must undertake an NMBI approved module or unit of study on Maternal and Child Health.

^{****}The Clinical Lead for the HSE's clinical programme for paediatrics and neonatology informed HIQA that an evaluation of the HSE's national model of care for neonatal services in Ireland was planned for 2020.

Table 3. The categorisation and level of neonatal units across the 19 maternity units and hospitals.

Level of neonatal unit	Hospital	Description of care provided
Level 3 Tertiary care	<ul style="list-style-type: none"> ▪ The National Maternity Hospital ▪ Rotunda Hospital Dublin ▪ Coombe Woman & Infants University Hospital ▪ Cork University Maternity Hospital 	<p>Level 3 neonatal units provide the full spectrum of specialist neonatal care to term and pre-term infants who are critically unwell. These tertiary neonatal units are staffed by consultant neonatologists; non-consultant hospital doctors (NCHDs) and neonatal nurses.</p>
Level 2 Regional care	<ul style="list-style-type: none"> ▪ University Maternity Hospital Limerick ▪ University Hospital Galway ▪ Our Lady of Lourdes Hospital, Drogheda ▪ University Hospital Waterford 	<p>Level 2 neonatal units provide routine care to term infants, special care, high-dependency care and short-term ventilation to infants greater than 27 weeks' gestation. In line with Ireland's national model of neonatal care, these units should be staffed with a combination of consultant neonatologists and paediatricians with a special interest in neonatology, NCHDs and neonatal nurses.</p>
Level 1 Local care	<ul style="list-style-type: none"> ▪ Regional Hospital Mullingar ▪ St Luke's General Hospital, Kilkenny ▪ Wexford General Hospital ▪ Midland Regional Hospital Portlaoise ▪ Cavan & Monaghan Hospital ▪ University Hospital Kerry ▪ South Tipperary General Hospital ▪ Letterkenny University Hospital ▪ Mayo University Hospital ▪ Portiuncula University 	<p>Level 1 neonatal units provide routine neonatal care to term infants (infants born to mothers who go the full nine months of their pregnancies), and special care to infants over 32 weeks' gestation. Level one neonatal units are staffed by consultant general paediatricians, non-consultant hospital doctors and neonatal nurses. Infants of 30 to 31 weeks' gestation can be cared for in local neonatal units if the appropriate staffing complement is available, that is to say, a high-dependency nursing ratio</p>

	<p>Hospital</p> <ul style="list-style-type: none"> ▪ Sligo University Hospital 	<p>of one nurse to two babies, middle grade registrar NCHDs and consultant staff.</p>
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All neonatal units are integrated through the National Neonatal Transport Programme.⁽³⁶⁾ This programme is a retrieval service for the stabilisation and transportation of premature and sick babies who require transfer for specialist care within Ireland and abroad. The programme provides a dedicated, specialist service with specifically trained staff who transport and transfer premature and or critically ill babies requiring specialist services. The service is staffed on a rotational basis with medical and nursing staff from the three Dublin maternity hospitals. These staff, together with staff from the National Ambulance Service and or the Irish Air Corps, ensure that there is a team available for transport 24/7.

Workforce

Staffing of maternity and neonatal services

Maternity services are delivered by teams of clinicians, which include midwives, nurses, obstetricians, anaesthesiologists, neonatologists and paediatricians. Provision of maternity care also includes other professionals such as GPs, public health nurses, pharmacists, and other allied health professionals, including ambulance service personnel.

Midwifery and nursing staff

Midwives are considered expert practitioners and are the lead professionals in the provision and delivery of care during pregnancy, labour and birth and after birth to women with uncomplicated pregnancies. Midwives also have a significant role in co-ordinating care for high-risk pregnancies. Nurses provide nursing care to women in operating theatres and critical care units and care to newborns in neonatal units.

Obstetricians

Consultant obstetricians have overall clinical responsibility for all pregnant and postnatal women assigned to their care.^{1,3} However, much of their time is spent caring for women and babies presenting with higher risk and or complicated pregnancies. In Ireland, most consultant obstetricians also work as gynaecologists for at least part of their clinical practice. Some may also have significant management or professional leadership roles.

Consultant obstetricians also supervise and formally assess non-consultant hospital doctors (NCHDs). NCHDs in obstetrics — all of whom are registered medical professionals — involved in the delivery of maternity services may or may not be involved in an accredited training scheme. NCHDs who successfully complete basic specialist training in obstetrics and gynaecology and who gain additional clinical experience can apply for the higher specialist training programme in obstetrics and gynaecology. This specialist training programme is five years in duration. Those on training schemes rotate to different units or hospitals to develop and acquire core skills in obstetrics and gynaecology.

Currently, there are no formally agreed national recommendations in Ireland outlining requirements for the number of obstetricians that should be employed in any given maternity unit or hospital.

However, according to the latest health statistics from the Organisation for Economic Co-operation and Development (OECD), Ireland has the lowest number of consultant obstetricians per 100,000 women in the European Union and the third lowest among all of the OECD countries.⁽³⁷⁾ In 2015, the HSE's Clinical Programme for Obstetrics and Gynaecology recommended in a report that the number of consultant obstetricians in Ireland be increased to the equivalent of the United Kingdom with 9.22 consultant obstetricians for every 1,000 live births. Moreover, the HSE Clinical Programme for Obstetrics and Gynaecology estimated that in order to reach UK consultant staffing levels per 1,000 births (based upon 2015 figures), an additional 100 obstetricians and gynaecologists would be needed in Ireland over the coming years.^(38,39) Four years on from the publication of this report, members of HIQA's external advisory group informed HIQA that a similar number of obstetricians and gynaecologists were still required across maternity services nationally.⁺⁺⁺⁺

Anaesthesiologists

Anaesthetic services are an integral part of the care provided in maternity services.^(40,41) Anaesthesiologists are required for providing pain relief, such as epidural anaesthesia for women in labour, and to assist with the resuscitation and care of women who become critically ill due to pregnancy-related conditions; for example, severe bleeding and pre-eclampsia.⁺⁺⁺⁺ They are also needed and responsible for women who require emergency anaesthesia; for example, in the case of caesarean section and other surgery during and after birth. Guidelines recommend

⁺⁺⁺⁺ The HSE's Health Service Employment Report for October 2019 indicates that there are 162 whole time equivalent consultant obstetricians and gynaecologists employed in the HSE. This number includes consultant obstetricians and gynaecologists who are employed in maternity units and hospitals as well as acute hospitals that provide gynaecology services.

⁺⁺⁺⁺ Pre-eclampsia is a medical condition where high blood pressure and protein in the urine develop during pregnancy. If left untreated, it may result in seizures at which point it is known as eclampsia.

that there is a duty anaesthesiologist immediately available to attend women in labour 24 hours a day. A duty anaesthesiologist is an anaesthesiologist who has been assessed as being competent to undertake duties on the labour ward by a consultant anaesthesiologist.⁽⁴¹⁾ A duty anaesthesiologist may be a consultant anaesthesiologist, an NCHD on a specialist training programme in anaesthetics or an NCHD not on a specialist training programme. The anaesthetic services required for a maternity unit or hospital, especially outside core working hours, must be considered in the planning and delivery of maternity services.

Neonatologists and paediatricians

Although midwives and obstetricians are trained to resuscitate and stabilise newborns,^(42,43,44) maternity services also need neonatal nursing and paediatric and neonatal medical staff to care for a range of possible health problems which may affect newborns.

At consultant grade, level 1 (local) neonatal units are staffed by consultant general paediatricians. Level 2 (regional) units should be staffed with a combination of neonatologists and paediatricians with a special interest in neonatology. Level 3 (tertiary) neonatal units are staffed by consultant neonatologists.⁽³⁶⁾ Similar to obstetrics, NCHDs in neonatology and paediatrics involved in the delivery of neonatal care may or may not be involved in a specialist training scheme.

Workforce training for obstetric emergencies

Training specific to maternity care is required to enable staff to acquire and maintain the skills, knowledge and competence to provide safe, high-quality care and to detect and respond to obstetric emergencies. The National Maternity Strategy acknowledges that it is critically important that all maternity staff have the appropriate skills to deal with a deteriorating woman and newborn.⁽³⁾ The *National Standards for Safer Better Maternity Services* set out that clinical staff should undertake multidisciplinary team training appropriate to their scope of practice, and skills gained should be supported by regular team skills and drills. Findings in relation to workforce training are presented in Chapter 3 of this overview report.

Supporting the provision of effective and safe care in maternity services

Safe and effective care is achieved through the use of evidence-based information and is promoted by ongoing evaluation of outcomes and effectiveness of the design and delivery of maternity services and care.

Policies, procedures and clinical guidelines

Clinical effectiveness is a key element in the delivery of safe, high-quality maternity care. Integrating best available evidence through clinical effectiveness processes —

such as practice guidance, clinical practice guidelines and audit — ensures that maternity care in all maternity units and hospitals is consistent, up to date and effective.⁽¹⁾⁽⁴⁵⁾

The National Clinical Effectiveness Committee (NCEC) was set up by the Minister of Health in 2010 to provide strategic leadership on promoting safety and quality improvement in healthcare.⁽⁴⁶⁾ The NCEC has three subgroups: clinical audit, clinical guideline methodology, and education and training. The NCEC prioritises, quality assures and recommends clinical guidelines for endorsement by the Minister for Health.

Approved clinical practice guidelines are shared and implemented nationally, with the objective of ensuring that the care provided is standardised, consistent and up to date. The NCEC has ratified and published three clinical guidelines that maternity services are required to implement:

- Irish Maternity Early Warning System Version 2⁽⁴⁷⁾ (updated in February 2019)
- Sepsis management⁽⁴⁸⁾
- Communication (clinical handover) in maternity services.⁽⁴⁹⁾

In addition to the NCEC's guidelines, the HSE's National Clinical Programme for Obstetrics and Gynaecology developed a number of clinical guidelines relevant to the care of pregnant and postnatal women.^(50,51,52)

The clinical practice guidelines developed by the National Clinical Programme for Obstetrics and Gynaecology, a number of which were in response to HIQA's statutory investigations into maternity services, remain an important evidence base for the consistent delivery of safe, high-quality care.

Over the past nine years, the National Clinical Programme for Obstetrics and Gynaecology was advised by a clinical advisory group comprising of obstetricians and gynaecologists from the Institute of Obstetricians and Gynaecologists — the national professional and training body for obstetrics and gynaecology in Ireland — and worked with other agencies, programmes and health organisations to develop these guidelines. An example of this approach to clinical practice guideline development includes work undertaken jointly by the HSE's national clinical programmes for critical care, obstetrics and gynaecology and anaesthesiology to develop clinical practice guidelines relating to the critically ill woman in pregnancy. Such guidelines set out the care pathway for the deteriorating critically ill pregnant woman.⁽⁵³⁾

At the time of writing this overview report, the HSE's National Clinical Programme for Obstetrics and Gynaecology was integrated into the HSE's National Women and Infants Health Programme.⁽²⁵⁾

Monitoring and evaluation of maternity services

A well-governed and managed maternity service monitors its performance to ensure reliability so that the care it provides is of consistently high quality with minimal variation.⁽¹⁾ Measuring the quality of maternity care has, therefore, become increasingly important for both users and providers of the service. Publishing performance data on maternity services provides women and their families with an assurance that maternity services are delivered in an environment that promotes open disclosure, improves clinical performance and enhances safety and quality.⁽⁵⁴⁾ It also allows each maternity unit and hospital to benchmark themselves against national rates.

Currently, maternity units and hospitals in Ireland submit information to seven different sources which allows for the monitoring and evaluation of the quality and safety of the service provided in each maternity unit or hospital. This information is used to identify issues with the service and opportunities for improvement, and to benchmark a maternity unit's or hospital's performance against other maternity services. Table 4 lists and describes the different datasets that maternity units and hospitals provide information to.

Table 4. Description of the different datasets that maternity units and hospitals provide information to

Data set	Description and or function
Irish Maternity Indicator System (IMIS) (HSE)	IMIS contains 33 indicators across five domains: hospital activities, neonatal metrics, laboratory metrics, obstetric metrics and deliveries. It provides within-hospital tracking of both monthly and annual data. It also provides national comparisons across all maternity units, allowing hospitals to benchmark themselves against national average rates and over time.
National Perinatal Epidemiological Centre (NPEC)	NPEC evaluates and publishes nationally representative perinatal mortality and severe maternal morbidity data on an annual basis. It reports that its overall objective is to collaborate with Irish maternity services to translate clinical audit data and epidemiological evidence into improved maternity care for families in Ireland.
Maternity Patient Safety Statement (MPSS) (HSE)	The MPSS contains information on 17 metrics covering a range of clinical activities, major obstetric events, modes of delivery and clinical incidents. These metrics act as an early warning mechanism for issues that require local action or any issues that need intervention at hospital-group or national level.

Data set	Description and or function
Maternal Death Enquiry (MDE)	Maternal Death Enquiry (MDE) Ireland aims to promote safer pregnancy by conducting confidential reviews into maternal deaths, identifying learning points and using its findings to formulate and share recommendations. Hospitals, maternity services, coroners, general practitioners (GPs) and public health nurses are required to contact the MDE in the event of a maternal death which happens during pregnancy or within one year of the pregnancy.
Vermont Oxford Network (VON)	The Vermont Oxford Network (VON) collects information from over 900 Neonatal Intensive Care Units (NICUs) worldwide. The NPEC (National Perinatal Epidemiological Centre) funds and facilitates membership of the VON on behalf of all 19 neonatal units in the Republic of Ireland. Ireland participates in the VON's Very Low Birth Weight Database, which collects information on infants born less than or equal to (\leq) 1500g and or \leq 29 weeks.
State Claims Agency	Maternity hospitals are required to report patient safety incidents to the State Claims Agency which collates the figures.
Serious Reportable Events (HSE)	These are serious, largely preventable patient-safety incidents that should not occur if the available preventative measures have been implemented by healthcare providers. There is a requirement for hospitals to report serious reportable events to the HSE.
HSE Nursing and Midwifery Quality Care –Metrics	Nursing and midwifery quality care metrics enable Irish hospitals to measure the quality of midwifery and nursing care using care-process quality indicators. These provide a framework for how the fundamentals of midwifery and nursing care can be measured.

Information is collected every month and submitted to the Irish Maternity Indicator System by each maternity unit and hospital.⁽⁵⁵⁾ This information is collated and published in an annual report prepared by the HSE's National Women and Infants Health Programme and the HSE's National Clinical Programme for Obstetrics and Gynaecology. In addition, each maternity unit and hospital also publishes a monthly Maternity Patient Safety Statement.⁽⁵⁴⁾ This data measures clinical activity, major obstetric events, mode of birth and clinical incidents.

The Maternal and Newborn Clinical Management System (electronic healthcare record)

Of note, four maternity hospitals (the Rotunda Hospital, Cork University Maternity Hospital, University Hospital Kerry and The National Maternity Hospital) have implemented an electronic healthcare record for mothers and babies. The Maternal and Newborn Clinical Management System (electronic healthcare record) allows information to be shared with relevant providers of care covering all antenatal, intrapartum and postnatal women and the newborn until discharge from either the maternity unit or hospital to the care of the public health nurse. It is anticipated that effective implementation of this system will result in better communication, supported decision-making and better clinical audit.

Other relevant key health policy developments

In addition to the planned implementation of the National Maternity Strategy, the 2017 Sláintecare report proposes significant reform in health and social care services.⁽¹²⁾ Sláintecare sets out a vision for a universal single-tier health and social care system where everyone has equitable access to services based on need and not ability to pay.⁽¹²⁾ Sláintecare aims to improve the experience of people using health and social care services, improve clinician experience, lower costs and achieve better clinical outcomes.⁽¹²⁾ The Sláintecare implementation strategy was published in August 2018 and details key actions to be taken in the first three years of reform.⁽⁵⁶⁾ The Sláintecare programme implementation office was set up in the Department of Health in September 2018, tasked with developing a detailed action plan to enact the vision and reforms set out in Sláintecare. The action plan, comprising of four workstreams focusing on service redesign, governance, workforce and progress, was published in March 2019. The reform and redesign of maternity services outlined in the National Maternity Strategy is included in the workstream focusing on service redesign.⁽⁵⁷⁾

A significant reform within Sláintecare, is the establishment of six new regional integrated care organisations (RICOs) to be set up over the next two years.⁽⁵⁸⁾ Each RICO will plan, fund, manage and deliver integrated care for people in its region. RICOs will be somewhat aligned to the current hospital group structures^{§§§§} with the exception of the following changes for maternity services:

§§§§ The new divisions are: Area A – North Dublin, Meath, Louth, Cavan and Monaghan, Area B – Longford, Westmeath, Offaly, Laois, Kildare and parts of Dublin and Wicklow, Area C – Tipperary South, Waterford, Kilkenny, Carlow, Wexford, Wicklow and part of South Dublin, Area D – Kerry and Cork, Area E – Limerick, Tipperary and Clare and Area F – Donegal, Sligo, Leitrim, Roscommon, Mayo and Galway.

- South Tipperary General Hospital and University Hospital Waterford will be moving from the South/South West Hospital Group to RICO Area C. The specialist maternity hospital in this revised structure will be the National Maternity Hospital.
- The Mater Misericordiae Hospital will be moving from the Ireland East Hospital Group to RICO Area A. The specialist maternity hospital in this group will be the Rotunda Hospital.
- The Regional Hospital Mullingar will be moving from the Ireland East Hospital Group to RICO Area B. The specialist maternity hospital in this group will be the Coombe Women & Infants University Hospital.⁽¹²⁾

Furthermore, implementation of proposed changes in the area of trauma care in Ireland — as outlined in the National Trauma Strategy — are likewise intended to be progressed alongside those envisaged within the lifetime of the National Maternity Strategy.⁽⁵⁹⁾ The implementation of Sláintecare and the National Trauma Strategy may have significant impact on the design and provision of maternity services within the 19 maternity units and hospitals.

HIQA notes that in addition to these government policy documents, there are continued planning exercises within other HSE services. For example, the clinical programme for anaesthesiology has developed a draft model of care.

Chapter 3. Findings of HIQA's monitoring programme at maternity unit and hospital level

Introduction

This chapter presents an overview of the cumulative findings from the 19 maternity units and hospitals inspected as part of HIQA's monitoring programme to determine compliance against the *National Standards for Safer Better Maternity Services*,⁽¹⁾ with a focus on obstetric emergencies.

HIQA assessed compliance with the 21 national standards assessed under the four themes of: leadership, governance and management; workforce; effective care and support; and safe care and support. Overall, HIQA found that compliance was reasonably good across the maternity units and hospitals. However, in some maternity units, significant improvement was required to achieve full compliance with certain national standards.

This monitoring programme identified that two maternity units performed poorly with respect to compliance with some of the 21 national standards assessed. A number of specific risks relating to leadership, governance and management and workforce in particular needed to be addressed in both maternity units. HIQA escalated concerns identified in these maternity units to the HSE at a national level to ensure that these identified risks would be addressed.

Due to the level of identified non-compliance and the nature and level of risk involved, HIQA conducted a follow-up inspection in both maternity units to determine the progress made by hospital management to address the risks identified during the first inspection. The follow-up inspections identified improvements in the level of compliance, with further work required to ensure full compliance with some national standards.

The following sections set out the key findings from the inspections of all 19 maternity units and hospitals. Section 3.1 reports on each maternity unit's and hospital's capacity and capability to sustainably deliver their services, focusing on two themes from the *National Standards for Safer Better Maternity Services*: (i) leadership, governance and management and (ii) workforce.

Section 3.2 discusses the key findings relating to the safety and quality of services for women and their newborns. This section focuses on the two themes from the national standards of (i) effective care and support and (ii) safe care and support.

3.1 Capacity and capability to sustainably deliver care

Inspection findings in relation to the capacity and capability of maternity services to sustainably deliver care will be presented under the themes of (i) leadership,

governance and management and (ii) workforce from the *National Standards for Safer Better Maternity Services*.

3.1.1 Leadership, Governance and Management

Leadership, governance and management refer to the arrangements put in place by a service for clear accountability, informed decision-making and proactive risk management.⁽¹⁾ It also describes what measures the service has in place to meet its strategic and statutory obligations. Strong and effective leadership, governance and management arrangements are essential to create and sustain the goal of providing a safe and high-quality maternity service. Good governance arrangements also acknowledge the interdependencies between organisational arrangements and clinical practice and integrate these to achieve this goal.⁽¹⁾

The national standards state that maternity service providers should have formalised governance arrangements in place for assuring the delivery of safe, high-quality maternity care.⁽¹⁾ With a focus on obstetric emergencies, HIQA monitored compliance against seven specific national standards relevant to leadership, governance and management at individual maternity unit and hospital level. Figure 4 outlines the level of compliance across the 19 maternity units and hospitals with those seven specific national standards.

Figure 4. Level of compliance across the 19 maternity units and hospitals with seven of the *National Standards for Safer Better Maternity Services* relevant to leadership, governance and management.

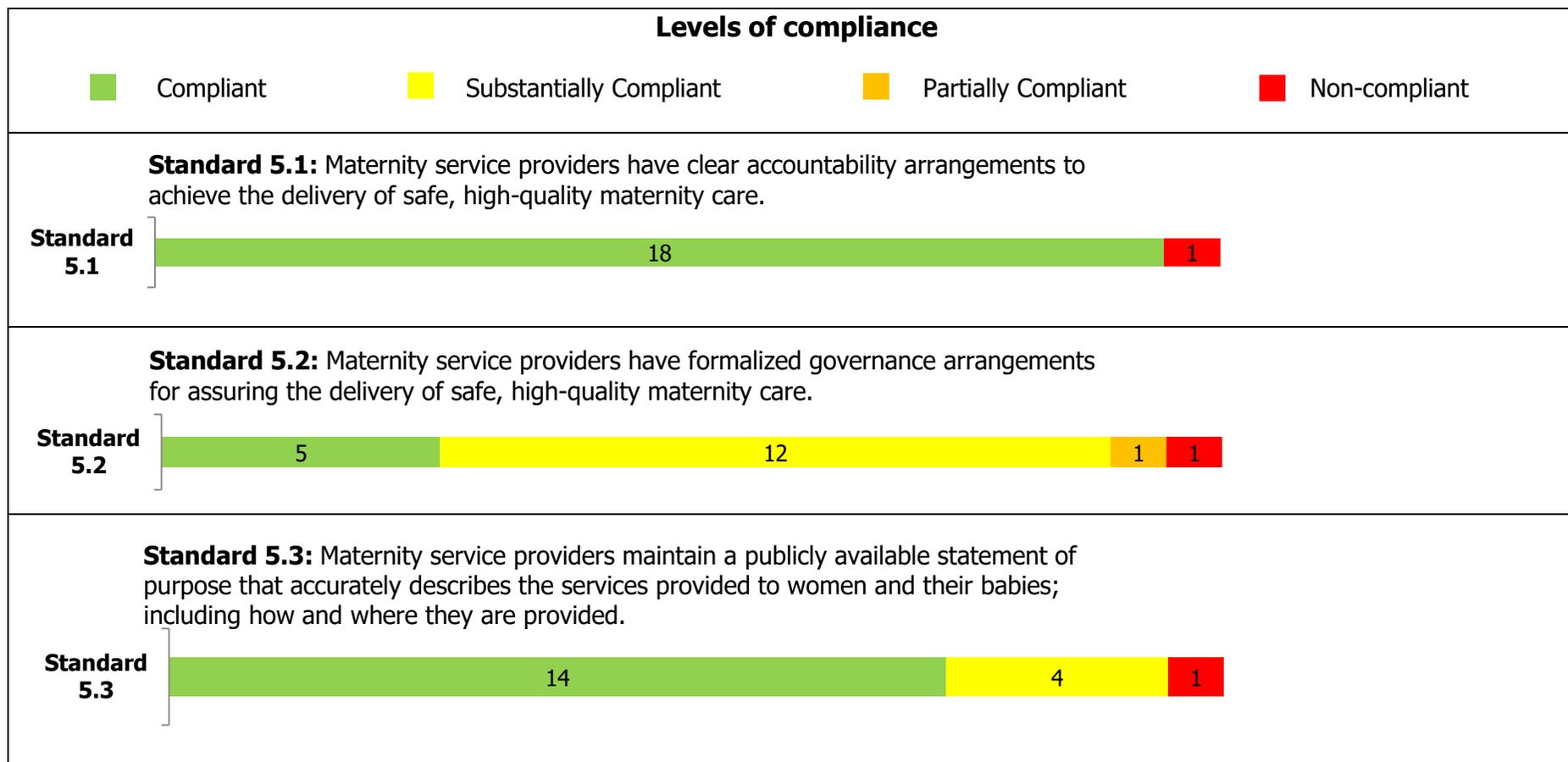
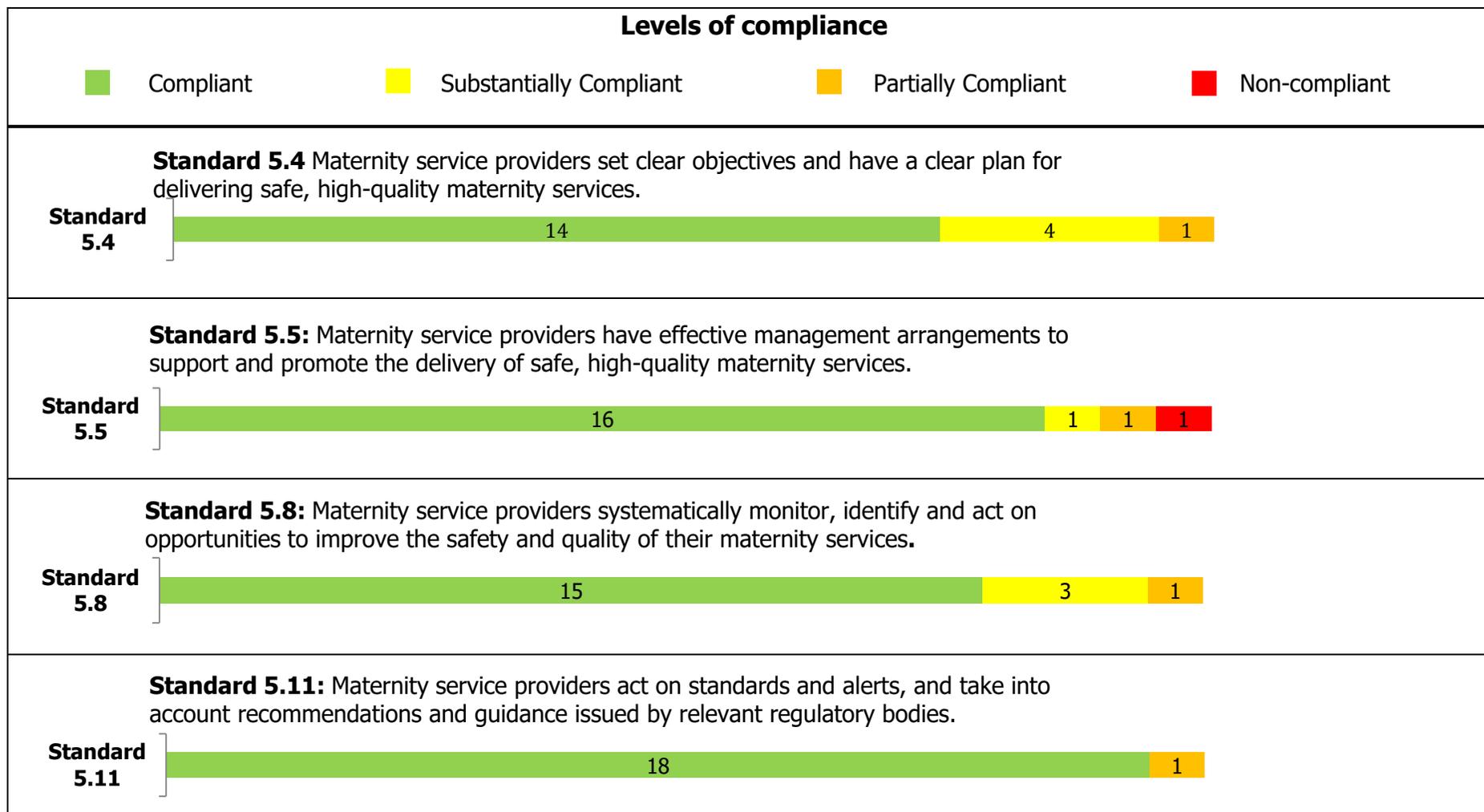


Figure 4. Level of compliance across the 19 maternity units and hospitals with seven of the *National Standards for Safer Better Maternity Services* relevant to leadership, governance and management.



Key findings related to leadership, governance and management at individual maternity unit and hospital level

- All maternity units and hospitals had an identified person who had overall responsibility for the safety and quality of the maternity service.
- Inspectors found that 18 of the 19 maternity units and hospitals had clearly defined reporting structures. However, one service did not, and this was addressed following HIQA's initial inspection of that service.
- By the end of this monitoring programme, directors of midwifery had been appointed in all 19 maternity units and hospitals. They were responsible for organising and managing midwifery and nursing services in these services.
- All maternity units and hospitals had clinical leads in the medical specialties of obstetrics, anaesthesiology, paediatrics or neonatology in position. The role of these clinicians was essential in supporting the management team to deliver the services provided.
- All maternity units and hospitals had corporate and clinical governance structures in place to monitor, act on and report on the quality and safety of the services provided.
- Sixteen of the 19 maternity units and hospitals had a formal written strategic plan setting out clear objectives and a plan for delivering maternity services.
- Inspectors found that none of the hospital groups had established a maternity network, as defined within the National Maternity Strategy and supported by the national standards.
- There was evidence of the development of collaborative working arrangements to enable larger maternity hospitals to support smaller maternity units in their hospital groups. However, the maturity and effectiveness of these arrangements varied across the hospital groups.

Findings in relation to establishing maternity networks****

The National Maternity Strategy — which is Government policy — clearly outlines that maternity networks should include a common system of leadership and management, with integrated corporate and clinical governance arrangements.⁽³⁾

The national standards supports this view. As a result, HIQA's programme of monitoring against these national standards considered the progress achieved in the establishment of these maternity networks since the strategy was published in February 2016.⁽³⁾

HIQA found that the six hospital groups were at different stages of setting up maternity networks — whereby larger maternity services would support the smaller services in their groups. Clinical networks which are more formally organised and managed are more likely to achieve their objectives compared to networks with less formal governance structures.^(60,61)

At the time of inspection, hospital groups were considering and, in some cases, trying to agree how such a network would be administered and governed. However, during the time frame of this monitoring programme, none of the hospital groups had set up a formalised maternity network under a single governance structure.

In the absence of a single governance framework, a number of hospital groups had implemented structures and arrangements that facilitated some sharing of resources, services and clinical advice and expertise between the larger and smaller maternity units and hospitals within their respective hospital groups.

The following sections outline the measures taken by each hospital group, under the current hospital group structure, to set up maternity networks.

Dublin Midlands Hospital Group

The Dublin Midlands Hospital Group provided maternity services in two hospitals, namely the Coombe Women & Infants University Hospital and the Midland Regional Hospital Portlaoise. The birth rate for the Coombe Women & Infants University Hospital was 8,330 births in 2018 while the Midland Regional Hospital Portlaoise had 1,416 births in the same year.⁽¹⁷⁾ A memorandum of understanding (MOU) was in place between both hospitals since 2015.

This MOU had enabled, among other things:

- joint appointments of consultant obstetricians and neonatologists across both clinical sites

**** Maternity networks are the systems whereby maternity units and maternity hospitals are interconnected within hospital groups to enable sharing of expertise and services under a single governance framework.

- antenatal risk identification and determination so that women with higher-risk pregnancies were managed by the Coombe Women & Infants University Hospital
- support with specialist training in fetal ultrasonography to enable expansion of fetal anomaly scanning for all women across both hospitals.

These arrangements meant that the transfer of pregnant and postnatal women and newborns at higher risk of complications from the Midland Regional Hospital Portlaoise was facilitated by the Coombe Women & Infants University Hospital. A senior consultant obstetrician from the Coombe Women & Infants University Hospital was assigned as the Clinical Director for Integration and attended the maternity unit in the Midland Regional Hospital Portlaoise for two days each week to provide support and clinical leadership at the maternity unit. Policies, procedures and clinical practice guidelines for maternity care were shared across both sites, where relevant. Learning from perinatal mortality and morbidity meetings were shared across both sites.

Two consultant neonatologists, who had joint appointments with both hospitals provided training, support and advice for medical and nursing staff in the special care baby unit in the Midland Regional Hospital Portlaoise. They also assisted with the standardisation of policies, procedures and clinical practice guidelines to improve neonatal care at the special care baby unit in the Midland Regional Hospital Portlaoise.

Progress in implementing the MOU had not led, however, to the full establishment of a maternity network as defined in the National Maternity Strategy. This means that the Coombe Women & Infants University Hospital's senior management team had no direct oversight or responsibility for maternity services provided at the Midland Regional Hospital Portlaoise.

The Coombe Women & Infants University Hospital told HIQA that the lack of an overall agreed future plan for the Midland Regional Hospital Portlaoise represented a major barrier to further progress on establishing a maternity network under a single governance structure.

[Royal College of Surgeons in Ireland Hospitals Group](#)

The Royal College of Surgeons in Ireland (RCSI) Hospitals Group provided maternity services in three hospitals: Cavan & Monaghan Hospital, Our Lady of Lourdes Hospital, Drogheda, and the Rotunda Hospital, Dublin. The hospital group had established structures to facilitate the group's larger maternity hospital (the Rotunda Hospital) to support the medium and small-sized maternity units within the group.

Table 5. Maternity services in RCSI Hospitals Group

Hospital name	Number of births in 2018⁽¹⁷⁾
The Rotunda Hospital	8,513
Our Lady of Lourdes Hospital Drogheda	3,070
Cavan & Monaghan Hospital	1,512

In addition, the hospital group was progressing with developing a maternity network. In the interim, it had formed the Women and Children's Directorate management structure. This directorate management structure includes all three maternity services within the hospital group. The Master of the Rotunda Hospital was the clinical director of the Women and Children's Directorate. The directorate had implemented care pathways whereby women at higher risk of complications and babies requiring complex neonatal care were transferred from the smaller and medium-sized maternity units to the Rotunda Hospital. This arrangement meant that women at higher risk of developing complications had access to specialists to support care planning and transfer, if required, to the most appropriate hospital.

Consultant obstetricians with joint appointments worked between the Rotunda Hospital and the two other maternity units in the group. These consultants who specialised in maternal fetal medicine, visited once a week to provide clinical advice and expertise to the small and medium-sized maternity units within the hospital group.

The Women and Children's Directorate had implemented a Senior Incident Management Forum that provided:

- oversight and monitoring of clinical activity and outcomes
- a forum for review of patient safety incidents
- a forum for sharing policies, procedures and clinical practice guidelines between the three maternity services in the group.

Notwithstanding these important and positive developments, the RCSI Hospitals Group had yet to establish a maternity network as defined in the National Maternity Strategy. During HIQA's monitoring programme, senior managers at the Rotunda Hospital informed inspectors that they believed full integration of maternity services across the RCSI Hospitals Group was hindered by the current constitution and governance arrangements of the constituent hospitals.

[Saolta University Health Care Group](#)

Saolta University Health Care Group provides maternity services in five hospitals: University Hospitals Galway (University Hospital Galway and Merlin Park Hospital),

Mayo University Hospital, Sligo University Hospital, Portiuncula University Hospital, and Letterkenny University Hospital.

The hospital group had formed a Women's and Children's Directorate management structure that was led by a clinical director located in University Hospital Galway. This directorate management structure included representatives from all five maternity services within the hospital group, which are all funded, governed and managed by the HSE.

Table 6. Maternity services in Saolta University Health Care Group

Hospital name	Number of births in 2018⁽¹⁷⁾
University Hospitals Galway	2,858
Letterkenny University Hospital	1,716
Portiuncula University Hospital	1,602
Mayo University Hospital	1,506
Sligo University Hospital	1,356

Integration of maternity services at the larger University Hospital Galway and the smaller Portiuncula University Hospital was underway in 2019. This aimed to merge all aspects of the governance and management at both units.

Following this, the hospital group planned to implement all elements of a maternity network for women's and children's services over time for all five maternity units in the hospital group.

The Women and Children's Directorate had structures in place for the oversight of key performance indicators; clinical activity; the development of policies, procedures and guidelines; and monitoring clinical safety incidents and risks. All these initiatives aimed to standardise care across the constituent maternity services.

Nonetheless, inspectors found that while University Hospital Galway was the larger maternity unit in the hospital group, it did not have capacity or facilities to accept premature and sick infants from the other smaller services who required level-three neonatal care. This meant that newborns requiring this level of care were transferred to one of the three maternity hospitals in Dublin.

At the time of HIQA's monitoring programme, the hospital group was planning to expand neonatal services at University Hospital Galway. It was reported that this would help to increase neonatal care capacity for maternity services across the Saolta University Health Care Group.

South/South West Hospital Group

The South/South West Hospital Group provided maternity services in four hospitals, namely Cork University Maternity Hospital, University Hospital Waterford, South Tipperary General Hospital, and University Hospital Kerry.

Table 7. Maternity services in South/South West Hospital Group

Hospital name	Number of births in 2018⁽¹⁷⁾
Cork University Maternity Hospital	7,577
University Hospital Waterford	1,801
University Hospital Kerry	1,254
South Tipperary General Hospital	969

In February 2017, in contemplation of the formation of a maternity network, the South South/West Hospital Group established a Maternity Services Directorate, under the leadership of a clinical director for maternity services. The clinical director for maternity services was responsible and accountable for the governance, management and delivery of services in Cork University Maternity Hospital. However, at time of writing this overview report, formal delegation of accountability and governance for the maternity services at the remaining three maternity units in the hospital group to the clinical director had yet to occur.

The Maternity Services Directorate had implemented a mandatory acceptance policy to facilitate the transfer and acceptance of women and newborns who required specialist care to Cork University Maternity Hospital. There was also daily and fortnightly communication and collaboration between the three smaller maternity units and Cork University Maternity Hospital. This ensured that the clinical director for maternity services was made aware of women and newborns who potentially may require transfer to Cork University Maternity Hospital for specialist care. These were important safety measures for women and newborns.

Ireland East Hospital Group

Ireland East Hospital Group provided maternity services in four hospitals: Regional Hospital Mullingar, St Luke's General Hospital, Kilkenny, Wexford General Hospital, and the National Maternity Hospital, Dublin.

Table 8. Maternity services in Ireland East Hospital Group

Hospital name	Number of Births in 2018⁽¹⁷⁾
National Maternity Hospital	7,937
Regional Hospital Mullingar	1,959
Wexford General Hospital	1,684
St. Luke's General Hospital Kilkenny	1,578

HIQA found that the Ireland East Hospital Group was in the very early stages of developing a maternity network, called the Women and Children's Health Clinical Academic Directorate. The operational plan for the Ireland East Hospital Group outlined that the Directorate will provide governance and oversight of maternity and paediatric services across the hospital group.⁽⁶²⁾ In March 2019, the group appointed a consultant obstetrician as the executive director for the directorate to support the smaller maternity units with their local maternity governance and clinical leadership.

At the time of this monitoring programme, there were no formalised care pathways within the hospital group to ensure that women with complex high-risk pregnancies and newborns requiring specialist neonatal services in the smaller maternity units would be accepted by the National Maternity Hospital, the largest maternity hospital within the hospital group.

Inspectors were informed that, in practice, women and newborns from the smaller maternity units were prioritised for admission to the National Maternity Hospital depending on maternal bed and neonatal cot capacity. This meant that, in practice, if the National Maternity Hospital did not have maternal bed capacity, the smaller maternity unit had to contact maternity units and hospitals in other hospital groups in order to source a suitable bed.

[University of Limerick Hospitals Group](#)

The University of Limerick Hospitals Group provided maternity services at the University Maternity Hospital Limerick. In 2018, University Maternity Hospital Limerick had 4,446 births.⁽¹⁷⁾ The fact that there is only one stand-alone maternity hospital in the University of Limerick Hospitals Group means that formal links with other maternity hospitals in the group were not possible.

The HSE have plans to co-locate the University Maternity Hospital Limerick (on the west side of the River Shannon in Limerick) to the site of the University Hospital Limerick (on the east side of the river in the suburb of Dooradoyle).

Conclusion

Overall, HIQA found that maternity networks as defined in the National Maternity Strategy⁽³⁾ had yet to be formally established in all hospital groups. Notwithstanding this, there was evidence that some hospital groups were at more advanced stages of development of these networks than others.

Inspectors found that where maternity networks were at a more advanced stage of development, access to specialised care for women and newborns attending smaller maternity units and hospitals was better. For example, a mandatory transfer and acceptance policy was in place in the South/South West Hospital Group to facilitate the transfer and acceptance of women and newborns who required specialist care in Cork University Maternity Hospital from the other three maternity units in the hospital group. This ensured that women and newborns requiring specialised care within the hospital group could be transferred to the larger tertiary maternity hospital in a timely manner.

Where consultant obstetricians from the large tertiary maternity hospital had joint appointments with smaller maternity units, they were onsite regularly to provide clinical expertise and advice for complex pregnancies. These joint appointments also facilitated rotation of NCHDs on higher specialist training programmes in the medical speciality of obstetrics.

Support from the tertiary maternity hospitals for the smaller maternity units was vital in ensuring access to fetal ultrasounds at intervals recommended in the national standards.

Smaller maternity units reported that quality and safety structures — for example, the Senior Incident Management Forum in the RCSI Hospitals Group — provided a system for support and advice external to the local hospital investigating and reviewing serious clinical incidents and serious reportable events. This forum also enabled the sharing of learning from clinical incidents and the benchmarking of outcomes for women and newborns between maternity units and hospitals in the hospital group. Inspectors also found that the development and monitoring of key performance indicators — such as attendance at essential training in cardiotocography interpretation and neonatal resuscitation, and the uptake of fetal ultrasounds — in the RCSI Hospitals Group helped to drive improvement across the maternity services in the hospital group.

Women and their newborns have a right to receive the same high-quality standard of maternity care regardless of their geographical location.⁽¹⁾ While not all maternity units can or should aim to provide all services to women or newborns, the implementation of maternity networks intends to assist smaller maternity units with the provision of a range of maternity services that the women and babies using their services require.⁽³⁾ Furthermore, maternity networks will enable rotation of medical

and midwifery staff between the different maternity services to meet training and service requirements.⁽¹⁾

During HIQA's monitoring programme, inspectors observed that where the structures outlined above were implemented, clinical staff and managers in the smaller maternity units were supported to improve the safety of the maternity care provided at their maternity unit.

While HIQA found some evidence of the positive impact of the move towards maternity networks, overall the level of progress in advancing maternity networks was both inconsistent and in many instances limited across each hospital group. Given that the establishment of maternity networks is a key element of the National Maternity Strategy, the relatively limited progress achieved in their formation at the time of HIQA's monitoring programme was of significant concern to HIQA.

Leadership, governance and management at maternity unit and hospital level

The national standards state that each maternity service should have clear local accountability arrangements to achieve the delivery of safe, high-quality maternity care.⁽¹⁾ This includes an identified senior individual who has overall responsibility and accountability for delivering this goal.

At the time of this overview report, an identified person was in position in all maternity services in Ireland. Overall managerial responsibility and accountability for maternity services was held by the hospital's chief executive officer, master, general manager or clinical director.⁺⁺⁺⁺

A key recommendation of HIQA's *Report of the investigation into the safety, quality and standards of services provided by the Health Service Executive to patients in the Midland Regional Hospital, Portlaoise* (2015) was the appointment of a director of midwifery to each maternity unit and maternity hospital.⁽⁶⁾ The purpose of this recommendation was to ensure that each director of midwifery, as a member of the executive management team, would contribute to the operational and executive management of the maternity service. Of the 19 maternity services, 18 had a director of midwifery appointed in the early stages of HIQA's monitoring programme, with the other hospital appointing a director of midwifery in June 2019.

Clinical leads had been appointed in the medical specialties of obstetrics, anaesthesiology and paediatrics or neonatology across all maternity units and hospitals. Clinical leads provided clinical oversight of their medical specialty and were responsible

++++ Cork University Maternity Hospital had appointed a clinical director. The clinical director provided overall clinical leadership at the hospital and had the executive power, authority and accountability for planning and developing maternity services and managing available resources.

for the operational management of the services within their specialty at maternity unit or hospital level.

Strategic planning at maternity unit and hospital level

Maternity units and hospitals should monitor their performance against service objectives and report on their performance through the relevant governance structures.⁽¹⁾ The national standards state that maternity service providers should set clear objectives and have a clear plan for delivering safe, high-quality maternity services. These plans should set out each service's short, medium and long-term objectives and costed implementation plans.⁽¹⁾

HIQA found that 16 maternity units and hospitals had a formal written local strategic plan in place, which set out the objectives and plans for the delivery of services at maternity unit and hospital level. The plans of two of the stand-alone maternity hospitals incorporated the implementation of maternity networks as a key objective.

However, many of the local plans were not underpinned with costed implementation plans, defined timelines and clear accountability arrangements. It was reported to HIQA that some hospitals were challenged to clearly develop a strategic plan, with staff explaining that they were not clear or confident on the level of service delivery they would be expected or resourced to provide in the future.

As discussed in Chapter 2, realignment of maternity units and hospitals in line with the planned Sláintecare reforms could potentially impact on the development of strategic planning in relation to maternity networks. In keeping with the findings related to the need to accelerate maternity network formation, a key requirement to enable this transition is more effective long-term planning, which integrates local plans with regional and national strategic plans for the health service.

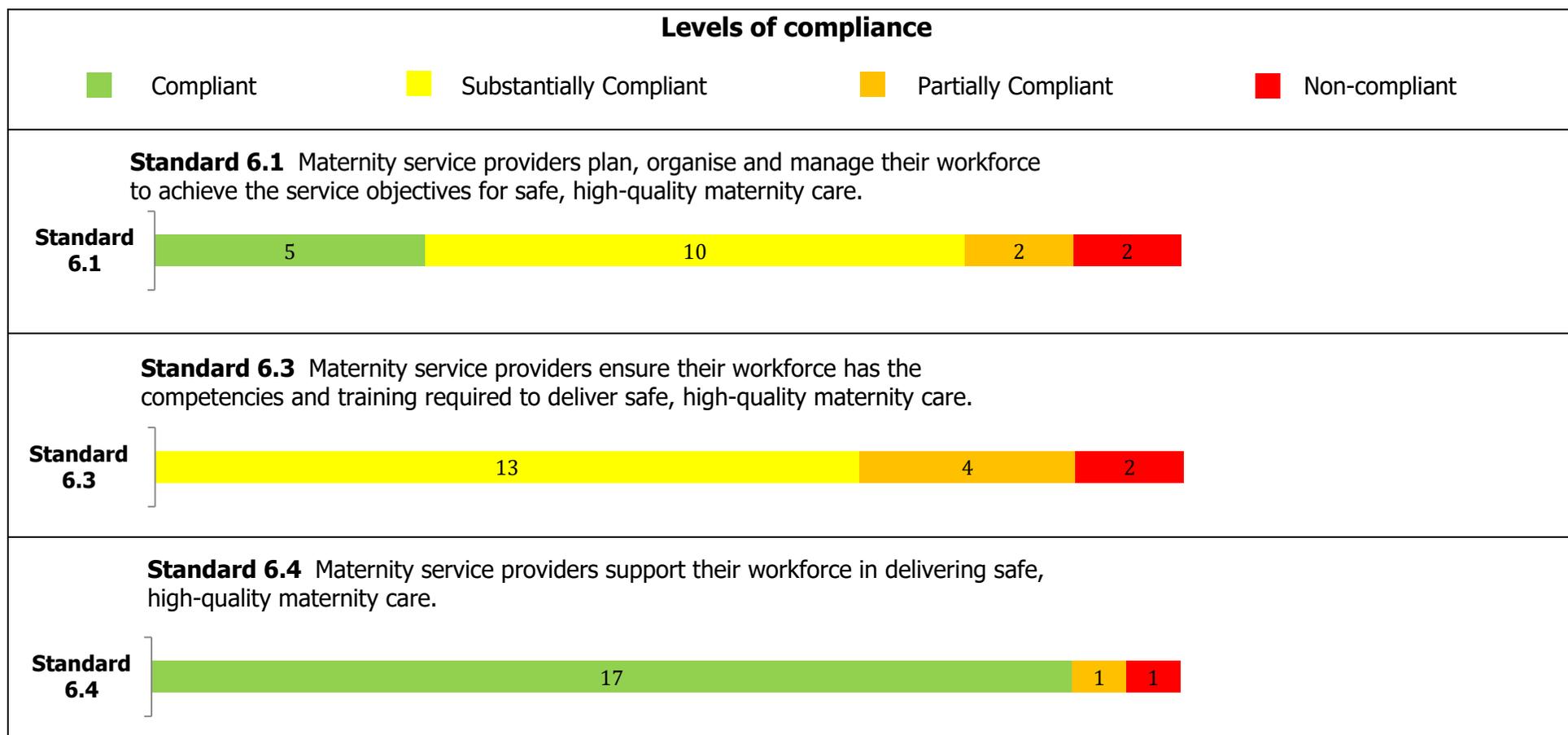
3.1.2 Workforce

The national standards require services to plan, organise and manage their workforce to achieve safe, high-quality maternity care.⁽¹⁾ Effective maternity services need processes to ensure that there is sufficient staff at the right time, with the right skills, diversity and flexibility to deliver safe, high-quality care. Services should recruit people with the required competencies, support them, including providing any necessary training.⁽¹⁾

This section of the report presents the findings in relation to how maternity services are resourced with a multidisciplinary workforce that is trained and available to detect and respond to obstetric emergencies at all times.

HIQA monitored compliance with three specific standards relevant to workforce. Figure 5 outlines the level of compliance across the 19 maternity units and hospitals with those three national standards.

Figure 5. Level of compliance across the 19 maternity units and hospitals with three of the *National Standards for Safer Better Maternity Services* relevant to workforce.



Key findings on workforce at individual maternity unit and hospital level

- HIQA found that all 19 maternity units and hospitals experienced difficulties recruiting and retaining key medical, midwifery and nursing staff required to provide safe maternity care.
- Five maternity units were not resourced to ensure that a designated anaesthesiologist was immediately available for the maternity service 24 hours a day, seven days a week. This was a potential risk to patient safety where immediate attendance by an anaesthesiologist may be required for coinciding emergencies.
- All maternity units and hospitals had contingency arrangements in place to manage concurrent emergency surgery, such as caesarean section cases, outside core working hours.
- Thirteen of the 19 maternity units and hospitals had clinical midwifery skills facilitators to provide support to midwives in developing their skills and competencies.
- All maternity services provided a programme of multidisciplinary team training on managing obstetric emergencies and neonatal resuscitation. However, attendance at training within the required time frame varied across the services.
- Team training on the management of obstetric emergencies and neonatal resuscitation was supported by regular multidisciplinary skills training and drills at all maternity units and hospitals. However, the frequency of these skills and drills training sessions was not consistent across services.
- Training in cardiotocography interpretation for midwives and obstetric medical staff appropriate to their scope of practice was mandatory in all maternity units and hospitals. Inspectors found attendance at training varied across the services.
- All maternity units and hospitals offered a formal induction programme for all new medical, midwifery and nursing staff.

Availability of workforce

HIQA found that the majority of maternity units and hospitals worked to deliver safe maternity care in an environment of medical, midwifery and nursing shortages. Arising from the difficulties in recruiting medical consultants, HIQA found that a small number of maternity units outside of Ireland's main urban areas, filled a small number of medical consultant positions with doctors who did not hold a specialist registration with the Medical Council in Ireland.^{****} Hospital and HSE managers attributed this practice to difficulties in recruiting and retaining medical staff, despite regular recruitment campaigns.⁽⁶³⁾ An assessment of these arrangements did not fall within the scope of this monitoring programme and therefore was not included in this report. Notwithstanding this, HIQA escalated concerns regarding this practice to senior HSE management in 2018. Following engagement with the HSE in 2018, better mechanisms to ensure senior HSE managerial oversight of this concern were developed as well as formal mechanisms for clinical governance of non-specialist registered doctors employed as consultants.

Midwifery and nursing staffing levels

Evidence-based workforce planning tools are widely used to determine midwifery staffing requirements to sustain a safe, high-quality service. Features in the national standards — which illustrate how a service can meet the standards — refer to service providers using nationally agreed workforce planning tools and adhering to national guidelines on rostering. In 2016, the HSE used the Birthrate Plus[®] methodology to establish and report the baseline midwifery staffing requirement for maternity services in Ireland.⁽⁶⁴⁾ Birthrate Plus[®] is an evidence-based tool currently used extensively in the United Kingdom and other countries.⁽⁶⁴⁾ At that time (2016), a ratio of one midwife to 35 births was recommended for medium to large-sized maternity units and hospitals. For smaller maternity units, one midwife to 40 births was recommended as an initial baseline. Notwithstanding these ratios recommended for use in maternity services in Ireland, it is acknowledged that the ratio of one midwife to 29 births is the recommended ratio for a similar model of maternity care in the United Kingdom.⁽⁶⁴⁾

HIQA found that the use of the Birthrate Plus[®] tool in Ireland was not used as designed on a continuous basis to determine required midwifery workforce staffing levels. Instead, it was used at a point-in-time. Using the tool in this way, does not show the atypical patterns or practices of maternity services. There are other significant factors such as demographic composition, the clinical casemix and quality of care indicators that will over time impact on application of midwife to birth ratios in a local setting, and these need to be considered when determining midwifery staffing requirement.⁽⁶⁴⁾

^{****} The Medical Council is the regulatory body for doctors in Ireland. It has a statutory role in protecting the public by promoting the highest professional standards amongst doctors practising in the Republic of Ireland.

Staffing shortages

During the time frame of HIQA's monitoring programme, maternity units and hospitals were in the process of recruiting key specialist midwifery and nursing positions to support the provision of care outlined in the National Maternity Strategy. For example, there was ongoing recruitment of:

- midwives with training and education to provide fetal ultrasonography^{§§§§§}
- clinical midwives or nurse specialists to support bereaved parents^{*****}
- specialist perinatal mental health midwives and nurses.

HIQA found that all 19 maternity units and hospitals experienced midwifery and neonatal nursing staff shortages relating to temporary or permanent positions. This was despite most maternity services engaging in national and international recruitment campaigns. Nonetheless, some maternity units and hospitals were successful in filling permanent midwifery and nursing positions. It was unclear to inspectors whether geographical location or urban or rural setting influenced the uptake of vacant midwifery and nursing positions.

Service providers used a number of measures to manage the midwifery staffing deficit and to keep maternity services safe. These included measures such as:

- the internal rotation of midwives in individual maternity units and hospitals which enabled the redeployment of midwives to areas of high activity when required
- hospital managers:
 - offering overtime to fill vacant shifts and
 - employing midwives from recruitment agencies.

Inspectors were also informed that, where possible, agency staff who were either previous employees or who were familiar with the maternity services were employed to fill the deficit.

Offering staff overtime mitigates against possible risks associated with the temporary employment of staff unfamiliar with the maternity unit or hospital. However, it may lead to an over-reliance on staff working extra shifts on an overtime basis, possibly beyond their regular contracted hours. This was more apparent in the smaller maternity units, where a small number of staff were working extra hours. Inspectors

^{§§§§§} Fetal Ultrasonographers can be either radiographers with specialised ultrasound training, or midwives who complete an accredited ultrasound training programme. The HSE informed HIQA in December 2019 that there is a recruitment process underway for sonographers that are open to both groups of staff, and the staff working as sonographers in maternity services may be recruited from both disciplines.

^{*****} By the end of HIQA's monitoring programme, all 19 maternity units and hospitals had appointed a clinical midwife or nurse specialist to support bereaved parents.

were concerned that this level of reliance on overtime is not sustainable in the long term across the maternity services, and may lead to a risk of burnout and subsequent further challenges with retention of midwifery and nursing staff.

The national standards recommend that a lead senior midwife (shift co-ordinator) is identified and available for each shift in the labour ward and this person is in addition to the other rostered midwifery staff. The purpose of this person is to facilitate communication between members of the multidisciplinary team and oversee the clinical activity in this high-risk clinical area.⁽¹⁾ Seventeen of the 19 maternity units and hospitals had a lead senior midwife (shift co-ordinator) in place for each shift in the labour ward. However, depending on staffing and activity levels, this person was not always in addition to the other rostered midwifery staff.

Notably, the models of care outlined in the National Maternity Strategy will have a significant impact on midwifery workforce requirements. HIQA was concerned that while maternity units and hospitals used the strategies outlined to keep staffing levels as safe as possible on a daily basis, national midwifery shortages have the potential to impede progress with the development of the models of care outlined in the National Maternity Strategy. HIQA has made recommendations in relation to this issue.

Operating theatre nursing staff

Two-thirds of births occur outside core working hours.⁽⁶⁵⁾ Therefore, maternity services must plan for potential emergencies, including, for example, emergency caesarean sections that may arise outside core working hours.

Inspectors found that all 19 maternity units and hospitals had a dedicated on-call nursing team available for the operating theatre should emergency obstetric surgery, for example, caesarean sections, be required outside core working hours. This usually consisted of three operating theatre nurses. Where maternity units were co-located within large general hospitals,⁺⁺⁺⁺⁺ a second dedicated on-call nursing team was available in the event of an emergency general surgery case occurring at the same time as an emergency obstetric surgery case. Maternity units and hospitals who did not have a dedicated second on-call nursing team had a standardised procedure for deploying a second nursing team to emergency operating theatres to manage the coinciding emergency general and obstetric surgical cases.

Notwithstanding this, inspectors found that a significant number of maternity units relied on the practice of calling in operating theatre nursing staff from home to manage coinciding emergency surgeries. These staff members were off duty and not actually on call. These arrangements rely on the goodwill of staff which is not sustainable in the long term.

⁺⁺⁺⁺⁺ University Hospital Galway, University Hospital Waterford and Our Lady of Lourdes Hospital, Drogheda.

Neonatal nursing staffing levels

The HSE's National Clinical Programme for Paediatrics and Neonatology⁽³⁶⁾ has issued the following recommended ratios for neonatal nursing care:

- one nurse to one baby for babies requiring intensive care
- one nurse to two babies for babies requiring high-dependency care
- one nurse to four babies for babies requiring special care.⁽³⁶⁾

Overall, HIQA found that while each maternity unit and hospital had strived to attain these staffing ratios, a number of neonatal units had experienced persistent nursing shortages — despite national and international recruitment efforts.

Medical staff

Medical care in the maternity units and hospitals was provided by consultants and NCHDs from the medical specialties of obstetrics, anaesthesiology and paediatrics and neonatology. Inspectors found that approximately two of every three NCHDs at registrar level were not on specialist training schemes in the disciplines of obstetrics, anaesthesiology and paediatrics. This finding can be attributed to the fact that nationally there are only a limited number of training positions available.⁽⁶⁶⁾ Moreover, in some of the smaller units around the country, there are no training positions available.

Appendix D lists the maternity units and hospitals that had training programmes for specialist registrars in the disciplines of obstetrics, anaesthesiology and paediatrics during this monitoring programme. Doctors who were not on a training scheme, who were employed at registrar grade in these specialties, were employed on temporary contracts of either six month or 12 months duration. A small number of these positions were also filled on a permanent basis. HIQA found that, aside from the four larger maternity hospitals, the provision of 24-hour maternity care was hugely dependent on this cohort of medical staff. In addition, this cohort of medical staff were not on a formal training programme and career pathway to becoming eligible for specialist registration with the Irish Medical Council[‡] in their relevant specialties. In the long term, this will have an impact on the availability of suitably qualified doctors to fill consultant posts and or these doctors remaining in Ireland.

Inspectors observed that registrars who were on a higher specialist training scheme completed log books that recorded the competencies achieved and skills attained. However, doctors not on a higher specialist training scheme did not. Being part of,

[‡] Doctors with specialist registration may practise independently, without supervision and may represent themselves as specialists. See: <https://www.medicalcouncil.ie/Registration-Applications/First-Time-Applicants/Specialist-Registration.html>.

or completing, such training schemes is an assurance of the competence of doctors who rotate into a service from other hospitals.

Many maternity services rely heavily on the work and commitment of long-term non-training NCHDs. In some of the maternity units and hospitals, these individuals have often remained in post for a number of years and have provided a vital service over that time, providing a degree of staffing stability. This is particularly important in a situation where the alternative might have been a more transient and therefore unstable workforce.

The lack of a formalised training and career pathway for such individuals, together with the opportunities available for career progression in other countries, poses a potential risk to the sustainability of maternity services. Measures that have been previously identified to address this issue should be implemented by the HSE and medical training bodies.⁽⁶⁶⁾

Obstetricians

There are currently no formally agreed national recommendations in Ireland outlining requirements for the number of obstetricians that should be employed in any given maternity unit or hospital.

HIQA found that the number of consultant obstetricians per 1,000 births ranged from 1.46 consultants to 4.23 consultants (See Table 9). During this monitoring programme, six of the 19 maternity units and hospitals did not have their full quota of approved consultant obstetrician positions filled.

These vacancies, particularly outside Dublin, resulted in a reliance on locum consultants to maintain current maternity services. Across maternity services, inspectors found that approximately 20% of approved permanent consultant obstetrician positions were unfilled. Consultants were employed on temporary or locum contracts to fill 15% of these positions. The remaining 5% of positions remained vacant. Inspectors were informed that the protracted recruitment processes and lack of suitably qualified candidates contributed to the challenges encountered when filling these positions.

Guidance on minimum requirements around rota sustainability for obstetricians is limited; however, there are a number of key publications that have considered this issue.^(7,67,68) Directors of the HSE's National Women and Infants Programme told HIQA that an on-call rota of one in every five nights for obstetricians represents a baseline minimum as to what they consider sustainable in small to medium-sized Irish maternity units and hospitals.

HIQA found variation in the on-call rotas for consultant obstetrician across the 19 maternity units and hospitals. Rotas ranged from being on call one in every three nights (one in three) to being on call one in every seven nights (one in seven).

Notably, 10 maternity services had an on-call consultant obstetrician rota of one in every four nights or less. (See Table 9 on the following page). HIQA believes this level of on-call commitment by consultant obstetricians is unsustainable in the longer term.

Table 9. Findings in relation to consultant obstetrician staffing levels from the onsite inspections at the 19 maternity units and hospitals.*

Maternity service	Total number of births in 2018	Number of approved WTE consultant obstetricians	Number of WTE permanent consultant obstetricians positions filled at time of inspection	Number of WTE (temporary*****) consultant obstetricians positions filled at time of inspection	Number of approved WTE consultant obstetricians per 1,000 births	On-call rota
Rotunda Hospital Dublin	8,513	16.3	15.2	1.1	1.91	1 in 7
Coombe Women & Infant's University Hospital	8,330	15.19	14.19	1	1.82	1 in 7
The National Maternity Hospital	7,937	15.9	15.9	0	2.00	1 in 7
Cork University Maternity Hospital	7,577	16.9	11.9	5.0	2.23	1 in 7
University Maternity Hospital Limerick	4,446	10 (6.5 for maternity services at UMHL)	6.5	3.5	1.46 UMHL	1 in 7
Our Lady of Lourdes Hospital Drogheda	3,070	9	5	3	2.93	1 in 7
University Hospital Galway	2,858	8	8	0	2.79	1 in 7

*****) These positions were either filled by consultants on locum, agency or temporary contracts.

Maternity service	Total number of births in 2018	Number of approved WTE consultant obstetricians	Number of WTE permanent consultant obstetricians positions filled at time of inspection	Number of WTE (temporary*****) consultant obstetricians positions filled at time of inspection	Number of approved WTE consultant obstetricians per 1,000 births	On-call rota
Regional Hospital Mullingar	1,959	6	3	1	3.06	1 in 3
University Hospital Waterford	1,801	4	3	0	2.22	1 in 3
Letterkenny University Hospital	1,716	5	3	1	2.91	1 in 4
Wexford General Hospital	1684	6	6	0	3.56	1 in 6
Cavan & Monaghan Hospital	1512	5	3	1	3.30	1 in 3
Portiuncula University Hospital	1,602	5.0	4.0	1	3.12	1 in 4
St. Luke's General Hospital Kilkenny	1578	4	4	0	2.53	1 in 4
Mayo University Hospital	1,506	5	4	1	3.32	1 in 4
Midland Regional Hospital, Portlaoise	1,416	6	5	1	4.23	1 in 5
Sligo University Hospital	1,356	4	3	1	2.94	1 in 4
University Hospital Kerry	1,254	4	3	1	3.18	1 in 4
South Tipperary General Hospital	969	4	1	2	4.12	1 in 3

Obstetric anaesthesiologists

Anaesthesiologists are involved in the care of over 60% of pregnant women and play a critical role in the management of obstetric emergencies. Many of these emergencies require resuscitation and or surgery.^(40,41)

The national standards require maternity units and hospitals to have a dedicated anaesthetic service. However, with the exception of the four stand-alone maternity hospitals,^{§§§§§§} anaesthesia services for maternity services are provided from within the wider acute general hospital anaesthesiology services. This allows for maternity services to readily avail of other services provided in the acute general hospital setting whenever needed. However, it also means specialties such as anaesthesiology are provided to the maternity service alongside the demands of the acute general hospital. These other demands may include providing anaesthetic services in the operating theatres, critical care in the intensive care units, and being members of the hospital's resuscitation teams.

Therefore, all hospitals providing maternity services alongside acute general hospital services need to be adequately resourced to ensure that they have enough anaesthetic cover rostered to meet these concurrent and often competing emergency demands. In particular, anaesthetic rosters outside core working hours need to be sufficiently resourced.

National guidelines recommend that a duty anaesthesiologist should be immediately^{*****} available for the labour ward 24 hours a day, and must therefore have no other responsibilities outside obstetrics.⁽⁴¹⁾ In April 2016, the HSE's Chief Clinical Officer issued a national recommendation that set a baseline requirement for out-of-hours cover for anaesthetic services in hospitals that provided a co-located maternity service. This recommendation stated that each roster in such a hospital should contain at a minimum two consultant anaesthesiologists and two NCHDs in anaesthesia to provide on-call cover in hospitals with co-located maternity units.⁽⁶⁹⁾

Overall, HIQA found concerning variation in the level of anaesthetic cover outside core working hours within co-located maternity units. Only four of the 15 hospitals with co-located maternity services met the requirement of having two consultant anaesthesiologists providing on-call cover from home outside core working hours and a minimum of two NCHDs in anaesthesiology onsite.

Of the remaining 11 co-located maternity units, five did not have the two NCHDs onsite in out of hours as outlined in national recommendations.⁽⁴¹⁾ Within these

§§§§§§ University Maternity Hospital Limerick, Coombe Women & Infants University Hospital, Rotunda Hospital Dublin and The National Maternity Hospital.

***** Immediately available and able to attend within five minutes of being summoned, except in exceptional circumstances.

maternity units, HIQA found that only one registrar in anaesthesiology was on call on site outside core working hours and therefore was responsible for providing anaesthetic care for both the maternity service and the general hospital.

HIQA escalated concerns relating to anaesthetic cover for women using both maternity services and acute general hospital services through the hospital's governance structures. Following HIQA's inspections, one hospital said that it had increased provision of anaesthetic medical staff at the hospital so that since July 2019 two registrars in anaesthesiology were on site outside core working hours. Hospital managers in some of the hospitals where HIQA had escalated concerns about anaesthetic cover had conducted risk assessments on the level of anaesthetic cover provided out of hours in their respective hospitals. Hospital managers in two hospitals stated that they were satisfied with the controls they had implemented to mitigate against the risk. In two remaining maternity units, they were recruiting to increase on-site out of hours NCHD anaesthesiologist presence.

During HIQA's monitoring programme, inspectors found that over one in 10 approved consultant anaesthesiologist positions (11%) were filled with consultants in temporary positions, either through temporary or locum contracts.

The College of Anaesthesiologists in Ireland recommend that on-call rosters for consultant anaesthesiologist should not be more onerous than one in every six nights at a minimum.⁽⁷⁰⁾ Inspectors found that 10 maternity units and hospitals had an on-call consultant anaesthesiologist rota of one in every five nights or less.

Overall, inspectors found that a significant increase in the number of consultant anaesthesiologists is required across maternity services nationally. This is to ensure that, where maternity services are provided alongside general hospital services, there is a duty anaesthesiologist immediately available on site to provide an obstetric anaesthetic service with clinical oversight and support from a consultant anaesthesiologist. This should be in addition to the consultant and NCHD anaesthetic staff required to meet the needs of critically ill women and other patients requiring emergency general surgery in co-located hospitals.

Neonatologists and paediatricians

Approximately 10% of newborns are admitted to neonatal units every year, including babies who are born prematurely or with congenital conditions.⁽³⁶⁾ As well as providing neonatal care, all maternity services must have established arrangements and resources for prompt, safe and effective resuscitation of babies after birth. In 2015, the HSE's National Clinical Programme for Paediatrics and Neonatology published a model of care for neonatology with the aim of addressing how neonatal care services should be delivered across maternity services.⁽³⁶⁾

The National Clinical Programme for Paediatrics and Neonatology recommends that each of the specialist maternity hospitals with level-3 (tertiary) neonatal units⁺⁺⁺⁺⁺ should have seven consultant neonatologists employed to meet current service demands. Inspectors found that none of the four tertiary neonatal units had achieved this recommendation, but all were working to increase consultant neonatologist positions to meet this recommendation.

Four of the maternity units had level-2 regional neonatal units⁺⁺⁺⁺⁺ where neonatal care was provided to babies born at greater than 27 weeks' gestation. National guidelines recommend that each of these neonatal units should be staffed by a combination of neonatologists and paediatricians with a special interest in neonatology. Inspectors found that while three level-2 neonatal units were staffed with a combination of neonatologists and paediatricians with a special interest in neonatology, one level-2 regional neonatal unit was staffed with consultant paediatricians with a special interest in neonatology but did not employ consultant neonatologists.

The National Clinical Programme for Paediatrics and Neonatology⁽³⁶⁾ also recommends that level-2 neonatal units should have a separate neonatology roster from the general paediatric roster. However, HIQA found that only one of the four level-2 regional neonatal units had a separate neonatology and paediatric roster; three did not.

Eleven of the co-located maternity units had level-1 local neonatal units^{§§§§§§} or special care baby units. These were staffed with consultant paediatricians who undertake routine newborn care, including neonatal resuscitation, as part of their duties and on-call roster. Similar to findings in other medical specialties, some of these maternity units had difficulty recruiting and retaining paediatric consultants. Inspectors found that approximately 20% of approved consultant paediatrician positions were filled either through temporary or locum contracts. The majority of these vacancies were outside the tertiary maternity hospitals and urban-based hospitals.

In general, HIQA found that neonatal services did not meet the workforce requirements as set out in the HSE's own National Clinical Programme for Paediatrics and Neonatology.⁽³⁶⁾

⁺⁺⁺⁺⁺ The primary function of tertiary neonatal units is to provide specialised care to infants who are critically unwell. Most of the workload is concentrated on very pre-term infants, term infants who are unwell and infants with major congenital malformation.

⁺⁺⁺⁺⁺ A level-2 regional neonatal unit which provided high dependency and intensive neonatal care for premature infants born at greater than 27 weeks' gestation and for sick term-infants.

^{§§§§§§} Level 1 neonatal units or special care baby units provided special care for premature infants born at greater than 32 weeks' gestation and for sick-term infants.

Inspectors found that nine of the 19 maternity services had an on-call consultant neonatology and or paediatric rota of one in every four nights or less. This level of on call is unsustainable in the long term.

Training and education of multidisciplinary teams

Overall, HIQA found that attendance and monitoring of attendance at mandatory training in relation to the management of obstetric emergencies, cardiotocography interpretation and neonatal resuscitation required improvement across the majority of maternity units and hospitals.

Team training for obstetric emergencies

Multidisciplinary team working that is grounded in good communications helps to deliver safer better healthcare outcomes.^(10,11) Teamwork training programmes in the management of obstetric emergencies have been developed to improve maternal, neonatal and perinatal outcomes.^(71,72)

HIQA's monitoring programme found that all 19 maternity units and hospitals facilitated a multidisciplinary training programme where obstetricians, midwives and anaesthesiologists were provided with a combination of lectures and scenario-based simulation training in obstetric emergencies. Inspectors found that most maternity services offered clinical staff a training programme for the management of obstetric emergencies developed in the UK.***** Three maternity hospitals had developed their own in-house bespoke training programme for the management of obstetric emergencies.

The national standards state that healthcare professionals should undertake multidisciplinary team training appropriate to their scope of practice, every two years in obstetric emergencies and basic life support, including the resuscitation of the pregnant woman. Inspectors found that the uptake of training programmes varied widely across the maternity services, with uptake rates ranging from 20% to 100% for training in the management of obstetric emergencies within the required two-year time frame. Uptake of training in basic life support within the required time frame ranged from 43% to 100%.

All maternity units and maternity hospitals held multidisciplinary skills and drills to provide opportunities for staff learning. However, HIQA found that there was no standardisation of how frequently skills and drills were held across maternity services.

***** This programme required members of the multidisciplinary team to attend a train-the-trainers programme in the UK in order to facilitate the roll out of the programme in their local maternity service.

Neonatal resuscitation training

HIQA found that it was mandatory across all maternity units and hospitals for medical staff, nursing and midwifery staff that provide care to newborn infants to attend neonatal resuscitation training at a minimum of every two years. Clinical staff across all 19 maternity units and hospitals were provided with the same training programme in neonatal resuscitation.⁽⁷³⁾ Rates of uptake of this training within the required time frames varied considerably across services, with reported rates ranging from 29% to 100%.

Cardiotocography interpretation (electronic fetal heart monitoring)

A number of key investigations and reviews into maternity care since 2011 have recommended that all midwifery and obstetric staff receive cardiotocography training appropriate to their scope of practice.^(74,75,76) They have also recommended that staff should be competent in the monitoring and interpretation of a cardiotocography tracing.

Such competence can only be assured with the provision of comprehensive training supported by regular updates. HIQA found that there was no standardised approach to the provision of training in relation to cardiotocography interpretation across the maternity services.

HIQA found that the rate of uptake of cardiotocography interpretation training within the required two-year time frame ranged from 19% to 100%. Where weekly cardiotocography updates or meetings were held, this provided an opportunity for shared learning among obstetric and midwifery staff — this is a welcome finding and should be replicated across all maternity services.

Difficulties in releasing clinical staff to attend training because of staff shortages were reported as a key challenge by some maternity units and hospitals. Hospital managers also reported difficulties in monitoring the uptake of training in the management of obstetric emergencies and cardiotocography interpretation whenever NCHDs moved between maternity services. Hospital managers must be assured that clinical staff have undertaken their mandatory training requirements at the required frequency. The monitoring and recording of all staff attendance at training is essential to provide this assurance to hospital managers.

HIQA noted that RCSI Hospitals Group monitored and publicly reported on compliance with the uptake of cardiotocography interpretation training and neonatal resuscitation training for each maternity service in the hospital group every month. The uptake of this training within the required two-year time frame for the maternity units and hospital in this hospital group ranged between 90% and 100% and is an example of good practice in this area.

Conclusion

Overall, maternity services were found to be very reliant on front-line medical or midwifery staff working onerous rosters or overtime to maintain service levels. In the longer term, such arrangements raise significant questions around sustainability and service safety.

HIQA found there was significant scope for improvement in many services around practices to ensure all staff were up to date with required training in dealing with obstetric emergencies, neonatal resuscitation and cardiotocography interpretation. This represented one of the more significant findings requiring short-term action by maternity units and hospitals and the HSE.

3.2 Safety and quality

Inspection findings in relation to safety and quality of maternity services will be presented under the themes of (i) Effective Care and Support and (ii) Safe Care and Support. These themes are contained in the *National Standards for Safer Better Maternity Services*.

3.2.1 Effective care and support

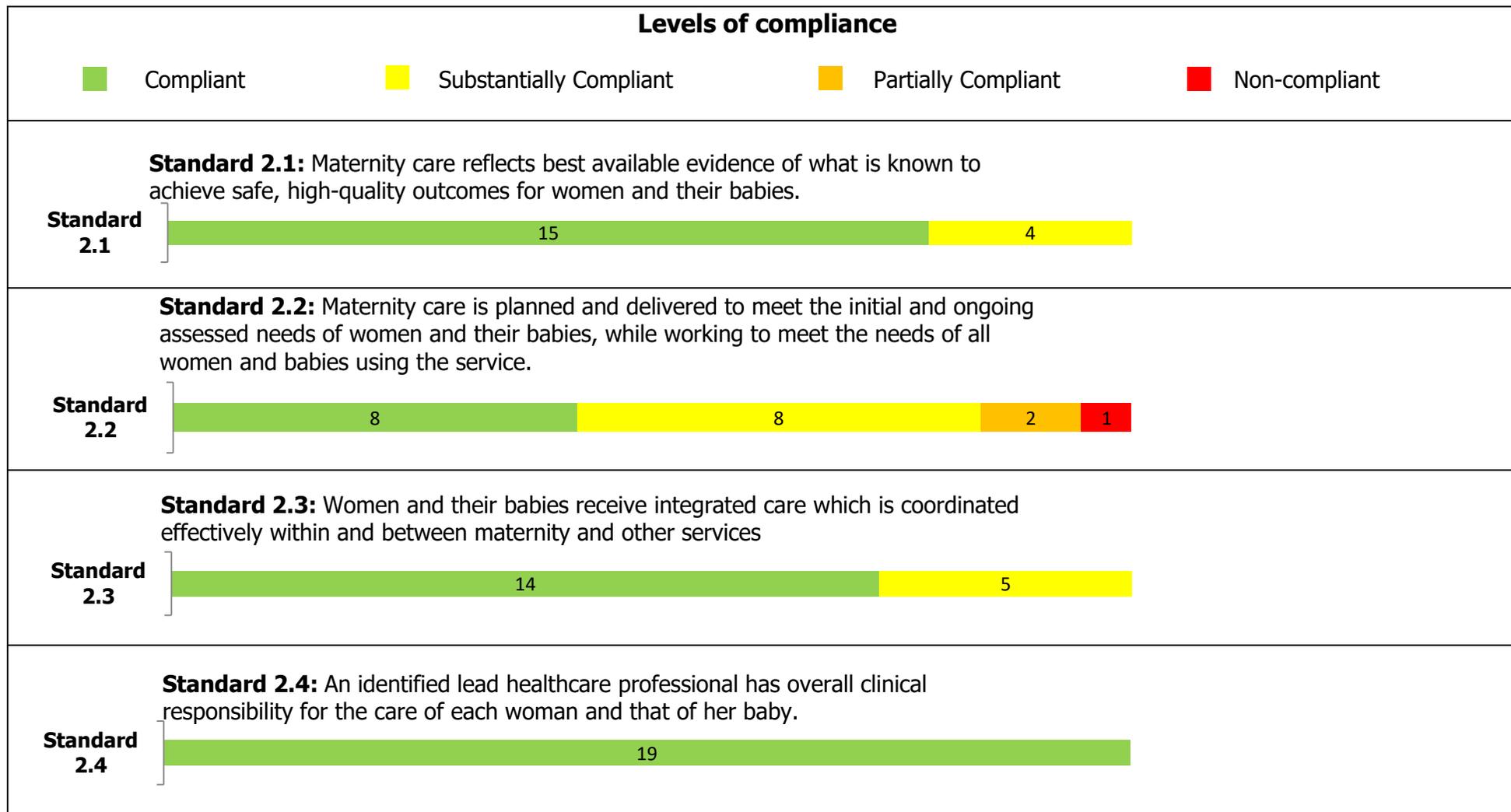
Women and their babies should have access to safe, high-quality care in a setting that is most appropriate to their needs. The design and delivery of maternity care should meet women's identified needs in a timely manner, while working to meet the needs of all women and babies using the maternity services. Effective care is achieved through the use of evidence-based information and is promoted by ongoing evaluation of outcomes and effectiveness of the design and delivery of maternity care.⁽¹⁾

This section presents the cumulative findings from all 19 maternity units and hospitals in relation to effective care and support. It describes findings on how maternity services identify pregnant women at greater risk of developing complications; detect and respond to obstetric and neonatal emergencies; and enable safe, quality care for women and their babies.

With a focus on obstetric emergencies, HIQA monitored compliance against seven specific national standards relevant to effective care and support. Figure 6 outlines the level of compliance across the 19 maternity units and hospitals with those seven specific national standards.

Inspectors found that the majority of maternity units and hospitals were compliant or substantially compliant with six of the specific national standards. However, 15 maternity services were either partially compliant or non-compliant with the national standard relating to the physical environment where maternity care is provided (Standard 2.7).

Figure 6. Level of compliance across the 19 maternity units and hospitals with seven of the *National Standards for Safer Better Maternity Services* relevant to effective care and support



Levels of compliance

■ Compliant
 ■ Substantially Compliant
 ■ Partially Compliant
 ■ Non-compliant

<p>Standard 2.5: All information necessary to support the provision of effective care, including information provided by the woman, is available at the point of clinical decision-making.</p>	<p>Standard 2.5</p> <table border="1"> <tr> <th>Level of Compliance</th> <th>Count</th> </tr> <tr> <td>Compliant</td> <td>17</td> </tr> <tr> <td>Substantially Compliant</td> <td>2</td> </tr> <tr> <td>Partially Compliant</td> <td>0</td> </tr> <tr> <td>Non-compliant</td> <td>0</td> </tr> </table>	Level of Compliance	Count	Compliant	17	Substantially Compliant	2	Partially Compliant	0	Non-compliant	0
Level of Compliance	Count										
Compliant	17										
Substantially Compliant	2										
Partially Compliant	0										
Non-compliant	0										
<p>Standard 2.7: Maternity care is provided in a physical environment which supports the delivery of safe, high-quality care and protects the health and wellbeing of women and their babies.</p>	<p>Standard 2.7</p> <table border="1"> <tr> <th>Level of Compliance</th> <th>Count</th> </tr> <tr> <td>Compliant</td> <td>2</td> </tr> <tr> <td>Substantially Compliant</td> <td>2</td> </tr> <tr> <td>Partially Compliant</td> <td>1</td> </tr> <tr> <td>Non-compliant</td> <td>14</td> </tr> </table>	Level of Compliance	Count	Compliant	2	Substantially Compliant	2	Partially Compliant	1	Non-compliant	14
Level of Compliance	Count										
Compliant	2										
Substantially Compliant	2										
Partially Compliant	1										
Non-compliant	14										
<p>Standard 2.8: The safety and quality of maternity care is systematically monitored, evaluated and continuously improved.</p>	<p>Standard 2.8</p> <table border="1"> <tr> <th>Level of Compliance</th> <th>Count</th> </tr> <tr> <td>Compliant</td> <td>13</td> </tr> <tr> <td>Substantially Compliant</td> <td>5</td> </tr> <tr> <td>Partially Compliant</td> <td>1</td> </tr> <tr> <td>Non-compliant</td> <td>0</td> </tr> </table>	Level of Compliance	Count	Compliant	13	Substantially Compliant	5	Partially Compliant	1	Non-compliant	0
Level of Compliance	Count										
Compliant	13										
Substantially Compliant	5										
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Non-compliant	0										

Key findings related to effective care and support at individual maternity unit and hospital level

- Fifteen of the 19 units or hospitals inspected had an outdated physical infrastructure that did not meet the recommended design standards and specifications for modern maternity services.
- All maternity units and hospitals had obstetric and neonatal emergency response teams available 24/7.
- Maternity units and hospitals had established pathways to identify, assess and ensure women and babies were cared for in the most appropriate setting but these were not always formalised.
- In line with the national standards, all women and babies accessing maternity services had a lead health professional who had overall responsibility for the woman and baby.
- Fourteen out of 19 maternity units and hospitals offered fetal ultrasounds at intervals recommended in the national standards. However, five maternity units did not.
- All maternity units and hospitals had implemented HSE guidelines relating to obstetric emergencies and the NCEC clinical practice guidelines on Irish Maternity Early Warning Score and Sepsis Management. However, the NCEC clinical practice guideline on communication (clinical handover) in maternity services was not fully implemented in all maternity units and hospitals.
- All maternity services had systems in place to access consultants in general surgery and consultants specialists, such as endocrinologists, cardiologists and psychiatrists.
- The National Neonatal Transport Programme was used to transfer babies to tertiary neonatal units across the maternity services.
- Four of the 19 maternity services had implemented the maternal and newborn clinical management system (electronic health record).
- Essential equipment and supplies for obstetric and neonatal emergencies were available and accessible in all maternity units and hospitals.

Assessment, admission and or referral of pregnant and postnatal women

To be effective, maternity care needs to be co-ordinated, planned, organised and managed so that women receive care and support at the right time, in the right place and from the right person.⁽¹⁾ Women should know who is responsible and accountable for them and their baby, and clinicians should have the right information at the point where clinical decisions are being made.⁽³⁾

Inspectors found maternity units and hospitals had established pathways for the assessment, management and admission of pregnant or postnatal women presenting for scheduled⁺⁺⁺⁺⁺ and unscheduled care⁺⁺⁺⁺⁺ 24/7.

Access to fetal ultrasound during pregnancy is an important aspect of antenatal care to identify women at higher risk of complications and to enable access to appropriate services, such as fetal medicine experts, and to facilitate multidisciplinary assessment, management and support. Fourteen maternity units and hospitals provided fetal ultrasound services at intervals as set out in the national standards. The remaining five maternity units and hospitals were working towards providing fetal ultrasound at the recommended intervals to all women accessing their maternity services from 2020. It is imperative that women, regardless of geographic location, are provided with fetal ultrasound services at the recommended intervals so that additional referrals and support may be identified and implemented during pregnancy and at birth.

Pathways for women with normal-risk pregnancies

Twelve maternity units and hospitals provided a model of care^{§§§§§§§§} where midwives were managing and delivering care supported by a multidisciplinary team. Two of these maternity units had a midwifery-led unit on site, caring for women classified as normal risk. This model of care aligns with the supported care pathway outlined in the National Maternity Strategy. Three further maternity units were at the early stages of developing a supported care pathway for women, for example, they provided hospital and community-based midwifery-led clinics. The remaining four maternity units had yet to commence the development of a care pathway for women with normal risk pregnancies during the time frame of the on-site inspections.

+++++ Care that is planned or arranged and provided within a specific schedule.

+++++ Care that is provided in an emergency situation.

§§§§§§§§ This model of care describes care that is provided by hospital based midwives in a community setting. Examples would include DOMINO and Early Transfer Home models of care where women receive some care in the community during pregnancy and the postnatal period but will give birth in a hospital setting. Three maternity services facilitated home births.

Strong midwifery leadership at local level and support from hospital managers were the two main facilitators that promoted and enabled work to progress on implementing the supported care pathway.

Pathways for women at higher risk of complications and newborns requiring complex neonatal care

The safety of care provided for women at higher risk of complications, or during an obstetric or neonatal emergency, depends on the services and resources available. To be effective, maternity services should be co-ordinated within and across healthcare services, such as between a smaller maternity unit and a large maternity hospital.⁽¹⁾ Maternity services should make the best use of available resources and have effective arrangements in place — where possible, through maternity networks — to access specialist services and critical care.⁽¹⁾

As described in section 3.1 of this overview report, three hospital groups had formalised arrangements for the referral and transfer of women at high risk of complications and babies requiring complex neonatal care.

At the time of this monitoring programme, two hospital groups did not have formalised pathways in place for the referral and transfer of pregnant and postnatal women at higher risk of complications and babies requiring complex neonatal care. However, they had arrangements in place to access such services whenever required. These arrangements were based on longstanding institutional links, clinician preference and availability of critical care beds and neonatal cots. Access to services often resulted in women being referred or transferred to specialist services outside the relevant hospital group structure.

Of note, University Hospital Galway is the largest maternity unit and tertiary referral hospital for the smaller maternity units in Saolta University Health Care Group. The maternity unit was co-located with the general hospital and provided a range of general and specialist maternity services. The hospital had a level-2 regional neonatal unit on site which provided high dependency and intensive care for premature babies born greater than 27 weeks' gestation and sick-term babies.***** If a baby less than 27 weeks' gestation was born in any of the five maternity units in the Saolta Health Care hospital group, the baby was stabilised and transferred soon after birth to a level-3 neonatal unit in one of the three maternity hospitals in Dublin.

Furthermore, University Hospital Galway had one dedicated operating theatre for obstetric and gynaecological surgery. Limited operating theatre availability and capacity, and a lack of on-site tertiary neonatal services are significant deficits for a tertiary referral hospital. If University Hospital Galway is to adequately provide the

***** Some full-term newborns may have health problems such as infection, jaundice, difficulty in breathing, cardiac or surgical problems that require specialised care.

services expected of a tertiary referral hospital within the Saolta University Health Care Group, then these deficits need to be addressed as a matter of urgency. The hospital needs to be supported by the HSE at a national level in this regard.

The stand-alone⁺⁺⁺⁺⁺ University Maternity Hospital Limerick was the only maternity hospital in its hospital group. The hospital could access acute general services for women at higher risk of complications in University Hospital Limerick. Further specialist maternity or neonatal care could be accessed in the four maternity hospitals in Dublin or Cork when required.

Access to consultant specialist services

Overall, this monitoring programme found that while maternity services had arrangements in place to access consultant specialist services, these arrangements were not always formalised or available through their own hospital groups. Small and medium-sized maternity units co-located with an acute general hospital had access to critical care and consultant specialist services on site.

As described in Chapter 2, the co-location of maternity services with acute services is national policy. In the interim, the four stand-alone maternity hospitals had arrangements in place to access specialist services and critical care not readily available to them within their own maternity hospital.

The four stand-alone maternity hospitals had access to obstetric-related and general specialist services, such as fetal medicine, endocrinology and psychiatry. Other specialist services were accessed from a large acute general hospital, accessed where possible, within their respective hospital group. This arrangement was further supported by the joint appointments of consultants in the specialties of obstetrics and anaesthesia across maternity and acute hospitals in some hospital groups. Such appointments facilitated availability of and access to specialist services and critical care in an acute hospital when needed.

All maternity units and hospitals had access to consultant haematologist and microbiologist whenever required. Processes were in place to access blood and blood replacement products when needed in an emergency for women and newborns in all maternity units and hospitals.

Access to specialist neonatal care

All maternity services had arrangements in place to ensure that the neonatal services were given sufficient notice of babies at higher risk of potential complications. During HIQA's monitoring programme, inspectors found that all 19 maternity units and hospitals used the National Neonatal Transport Programme to

⁺⁺⁺⁺⁺ Stand-alone maternity hospital refers to a maternity hospital that is not co-located on the site of an acute general hospital.

achieve the aim of ensuring premature and or critically ill babies received care in the most appropriate setting.⁽³⁶⁾

Access to critical care services for pregnant and postnatal women

Pregnant and postnatal women may require a higher level of care for a number of conditions, including severe pre-eclampsia,^{*****} sepsis, obstetric haemorrhage or during or after an obstetric emergency. Features in the national standards recommend that specialised birth centres have a high-dependency or observation unit to monitor, detect, and respond to any clinical deterioration in a woman's condition.

Seven maternity services (five maternity hospitals and two maternity units) had a high dependency unit or observation unit located in the labour ward. The remaining 12 maternity units could access level-2^{§§§§§§§§§§} or level-3^{*****} intensive care facilities in the co-located acute general hospital.

HIQA found that access to critical care was largely determined by the woman's clinical condition, availability of beds and long-established, historical arrangements pre-dating the establishment of the hospital group structure. For example, the Rotunda Hospital (in the RCSI Hospitals Group) accessed critical care services in the Mater Misericordiae University Hospital (in the Ireland East Hospital Group). Notwithstanding the fact that capacity of intensive care beds across the country needs to increase,⁽⁷⁷⁾ inspectors were informed by hospital managers and clinicians that pregnant and postnatal women in need of critical care were prioritised.

All maternity services had arrangements in place for the transfer and care of pregnant and postnatal women requiring critical care. Women needing specialist critical care were stabilised and transferred using the Mobile Intensive Care Ambulance Service,⁺⁺⁺⁺⁺ or the HSE's National Ambulance Service.

Availability of obstetric anaesthesiology services

The features of the national standards recommend that maternity services should have an anaesthetic pre-assessment clinic so that the anaesthetic service is given

***** Pre-eclampsia is a medical condition where high blood pressure and protein in the urine develop during pregnancy. If left untreated, it may result in seizures at which point it is known as eclampsia.

§§§§§§§§§§ Level 2 critical care is described as the active management by the critical care team to treat and support critically ill patients with primarily single organ failure.

***** Level 3 critical care is the level of care required for patients who need advanced respiratory support (mechanical ventilation) alone or basic respiratory support along with support of at least one additional organ.

+++++ Adult retrieval and transfer service for the serious and or critically ill adult throughout Ireland, available seven days a week through the critical care and retrieval services of the National Ambulance Service. The service was available between the hours of 08.00-20.00hrs from three hub sites Dublin, Cork and Galway.

sufficient advance notice of women at a higher risk of potential anaesthetic related complications.⁽¹⁾

Fourteen maternity units and hospitals had an anaesthetic pre-assessment clinic^{*****} where pregnant women were referred to and reviewed by a consultant anaesthesiologist or the anaesthesiologist on duty. Attendance and review at an anaesthetic pre-assessment clinic provided the opportunity to develop a plan of care for labour and birth to militate against anticipated and potential anaesthetic-related complications.

The remaining five services had informal arrangements in place to identify and review women at higher risk of potential anaesthetic-related complications and did not have a dedicated pre-assessment anaesthetic clinic for these women.

Access to an operating theatre for emergency surgery

Pregnant and postnatal women may require surgical procedures for the management of obstetric emergencies and or obstetric complications. Inspectors found that 10 maternity units and hospitals had a dedicated operating theatre located in or adjacent to the labour ward. The remaining nine had implemented measures to facilitate the safe and timely transfer of woman to the operating theatre so that obstetric surgery, such as caesarean section, was conducted within the international recognised timeframes for different levels of caesarean section.^{§§§§§§§§§§}

Communication

Emergency response teams

All maternity units and hospitals inspected had emergency medical response teams and established protocols and procedures in place 24 hours a day, seven days a week to provide an immediate response to obstetric and neonatal emergencies. Emergency resuscitation equipment for women and babies, emergency supplies and relevant medications was available and accessible in all maternity units and hospitals inspected.

^{*****} A pre-assessment anaesthetic clinic is a service whereby women with risk factors for anaesthesia or women who might have difficulties are reviewed by the duty anaesthesiologist and a plan of care is developed that is appropriate for the women. Such clinics review women presenting with a high risk of obstetric complications. Body mass index (BMI) greater than 40kg.m⁻² at first antenatal booking appointment, history of previous difficulties with, or complications of, regional or general anaesthesia and or significant medical conditions.

^{§§§§§§§§§§} The Royal College of Obstetricians and Gynaecologists have adopted a four-step classification system for determining the urgency and timing of caesarean section. The RCOG recommends a delivery within 30 and 75 minutes for urgent and emergency caesarean section. A delivery within 30 minutes is recommended whenever there is an immediate threat to the life of the woman or baby.

Multidisciplinary clinical handover

Effective multidisciplinary handover and team working is an essential component of effective, safe, high-quality care.⁽⁴⁹⁾ HIQA found that the nationally mandated guideline in relation to clinical handover in maternity services had not been fully implemented in all maternity services.

While clinical handover occurred in all maternity units and hospitals, it was not always multidisciplinary in nature, and senior medical staff in the medical specialties of obstetrics, anaesthetics, neonatology or paediatrics did not always attend. It is essential that all specialties involved in the care of women and babies share information to identify potential clinical concerns and to improve the safety of care.

Where implemented, safety huddles or pauses^{*****} helped to foster and create a culture of safety, increased safety awareness and improved communication.⁽⁷⁸⁾ They also provided staff with a forum to share concerns and address identified safety issues.

Medical, nursing and midwifery staff reported having no hesitation in contacting the on-call consultant if they had concerns about the wellbeing of a woman or baby or when seeking advice and additional support.

Maternal and Newborn Clinical Management System

Four maternity units or hospitals had implemented the Maternity and Newborn Clinical Management System. These were:

- Cork University Maternity Hospital in December 2016
- Maternity unit at University Hospital Kerry in March 2017
- Rotunda Hospital in November 2017
- the National Maternity Hospital in January 2018.

Going forward, the information derived from the Maternal And Newborn Clinical Management System should inform clinical audit activity, promote quality improvement in maternity services and assist all maternity units and hospitals to monitor and evaluate services and reporting outcomes to HSE.

Policies, procedures and clinical guidelines

Inspectors found that maternity units and hospitals had implemented HSE clinical practice guidelines relating to obstetric emergencies.^(50,51,52) A number of HSE clinical

***** Safety huddles held by the multidisciplinary team improve communication, situational awareness and care for women and babies among all team members.

practice guidelines relating to obstetric emergencies that maternity services were using were in fact out of date and needed to be revised and updated in line with HSE policy.⁺⁺⁺⁺⁺⁺⁽⁷⁹⁾

Maternity units and hospitals had also implemented the NCEC clinical practice guidelines on an Irish Maternity Early Warning System and Sepsis Management. However, as previously highlighted, inspectors found that the NCEC's clinical practice guidelines on communication (clinical handover) in maternity services had not been fully implemented across all maternity services.

In addition to clinical practice guidelines, clinical tools — such as the World Health Organization's *Surgical Safety Checklist* and tools used to estimate and measure blood loss — can standardise and improve the quality and safety of maternity care.^(80,81) However, these tools were not used consistently across the 19 maternity units and hospitals monitored. Evidence-based tools that aim to standardise and improve the quality and safety of maternity care should be implemented across all maternity services.

Infrastructure

Maternity services and care should be provided in a physical environment that is safe and secure, and which is responsive to women's needs.⁽¹⁾ It should support the delivery of safe, high-quality care, promote respect and dignity and protect the health and wellbeing of women and their babies.

The infrastructure and physical environment where maternity and neonatal care was provided varied considerably across the 19 maternity units and hospitals. Inspectors found that 15 maternity units and hospitals are providing maternity services and care in an inadequate, outdated and ageing infrastructure. In most services, the physical environment is not meeting internationally recognised design standards and requirements for modern maternity and neonatal services.^(82,83)

Only four maternity units and hospitals were compliant or substantially compliant with the national standard relating to physical environment (Standard 2.7). One of these hospitals, Cork University Maternity Hospital, was a modern purpose-built facility and co-located within a tertiary referral acute general hospital. Some maternity units and hospitals had completed remedial work to upgrade and refurbish core clinical areas such as the labour ward and neonatal unit so as to improve the physical environment for women and babies using maternity services. This remedial work enhanced the environment where care was provided.

Fifteen maternity units and hospitals were found to be either non-compliant or partially compliant with the national standard on physical environment. Staff in these

⁺⁺⁺⁺⁺⁺ The HSE recommends that policies, procedures, protocols and guidelines be revised and updated every three years or more frequently if required.

maternity units and hospitals were providing services and care in substandard physical environments that were in need of significant upgrading and refurbishment. Maternity units and hospitals recognised the risks associated with their infrastructure and physical environment, and many had escalated these risks to the relevant hospital group. A number of maternity units and hospitals had implemented initiatives and quality improvement projects to reduce or mitigate against these risks.

The following section of the report presents some of the key findings relating to the infrastructure and physical environment where maternity and neonatal care was provided.

Assessment areas

Inspectors found that assessment areas, such as emergency departments in general hospitals where women presented for review, did not always have a suitable, designated space for the clinical assessment of pregnant or postnatal women. Some of these clinical areas did not have en-suite toilet facilities, nor were they conducive to promoting dignity and privacy for women during assessment and examination. Furthermore, some maternity units had a convoluted infrastructure which was difficult for women and families to navigate and this was compounded by poor signage.

Labour ward

The design of labour wards varied across maternity services. While all maternity units and hospitals had single birthing rooms for women in active labour, multiple-occupancy rooms were used by women in the early stages of labour and or those having labour induced. The number of birthing rooms — and thereby capacity — in the large and medium-sized maternity units and services was limited and did not always meet the demand required. This had the potential to delay access to individual birthing rooms for women in active labour. Inspectors found that not all birthing rooms had en-suite toilets and showers as recommended in guidelines for modern maternity services.⁽⁸²⁾ Storage space was limited, resulting in essential equipment, such as adult resuscitation trolleys, being stored inappropriately. Some equipment was stored in birthing rooms and in public waiting areas.

Antenatal and postnatal wards

The setting where maternity care was provided during and after pregnancy also varied across maternity services. With few exceptions, antenatal and postnatal care was being provided in multi-occupancy accommodation. The number of women accommodated in these rooms varied across maternity units and hospitals but it ranged from two to six. A small number of maternity units and hospitals had larger multi-occupancy rooms that accommodated up to nine beds. Within these rooms inspectors observed that space was limited especially when accommodating baby cots beside their mother's beds.

Shared rooms were not conducive to the promotion of a comfortable, spacious environment, nor did they provide privacy and dignity or encourage rest and recovery after childbirth. They also increase the risk of cross infection.⁽⁸⁴⁾ Such limitations could cause difficulty when trying to access a woman and or baby in the case of a maternal or neonatal emergency, and could cause a risk of harm from injury as people try to negotiate the physical environment. In the majority of maternity units and hospitals inspected the number of en-suite toilet and shower facilities was limited in the antenatal and postnatal wards.

Neonatal units

The majority of neonatal units and special care baby units did not meet service requirements in line with relevant international guidelines for infrastructure and design of neonatal care facilities.⁽⁸³⁾ Four neonatal units did not have adequate isolation facilities, resulting in potential risk to the safety of infants due to the increased risk of cross infection between newborns. Inspectors also found there was insufficient space for neonatal cots, with cots placed very closely together in 13 neonatal units inspected, further increasing the risk of cross infection, in a population that may already be vulnerable. In some of the neonatal units inspected, space for the safe storage of medical equipment was limited, as were facilities for parents such as a kitchenette or rest room.

Obstetric operating theatre

A staffed dedicated obstetric operating theatre was not always in or adjacent to the labour ward in all maternity units and hospitals, as recommended in the national standards. Maternity units or hospitals that did not have an operating theatre in or adjacent to the labour ward had procedures in place to access the operating theatre quickly for emergencies, including emergency caesarean sections. Ten obstetric operating theatres inspected did not meet recommended design and infrastructural specifications for an operating theatre.⁽⁸⁵⁾

Overall findings in relation to infrastructure

The poor infrastructure and physical environment across maternity services significantly impacts on woman's comfort, dignity and privacy, and increases the potential risk of cross infection for women and babies. Inspectors found there is also the potential that the cramped, overcrowded and cluttered environment could hinder the timely access to a woman and or baby in an emergency situation.

The national standard on physical environment supports the delivery of safe, high-quality care and protects the health and wellbeing of women and their babies.⁽¹⁾ HIQA acknowledges that addressing the ageing physical infrastructure across many maternity services will take time and a significant amount of funding. HIQA also recognises that some maternity services do not have the resources or capacity to expand the size of accommodation and facilities within the current physical space

available. Nonetheless, each woman and baby has the right to be cared for in a comfortable environment that protects and promotes dignity and privacy and minimises the risk of acquiring a healthcare-associated infection.⁽¹⁾ Moreover, the care environment should enable a timely response to an emergency and contribute to the enhancement of the women's and families' experiences. Compliance with national standards^(1,4) cannot be achieved without significant investment to improve the current infrastructure and physical environment of most maternity services.

Monitoring and evaluation of maternity services

A well-governed and well-monitored service measures its own performance across all organisational levels. This measures whether the care provided is of a consistently high-quality for all women and babies with minimal variation across the wider system.⁽¹⁾

HIQA sought to determine if information collected by maternity units and hospitals is used to monitor and evaluate the effectiveness of the care provided. Such information includes routine monitoring of outcomes for women and babies, participation in clinical audit and feedback from women.

All maternity units and hospitals published Maternity Patient Safety Statements each month. During this monitoring programme, HIQA made the following observations in relation to the HSE's Maternity Patient Safety Statements template completed by maternity units and hospitals. The objective of the statement is to provide public assurances regarding maternity services and to inform local and hospital group management in carrying out their role in safety and quality improvement. The purpose and content section of each statement outlines that the statement forms part of the recommendations arising from the Chief Medical Officer's report to the Minister for Health and the HIQA investigation undertaken at Midland Regional Hospital, Portlaoise.^(6,28)

Considering that almost five years has passed since these investigations were undertaken and progress made to drive improvement at the maternity services in the Midland Regional Hospital Portlaoise, it is timely to remove any reference to maternity services at Midland Regional Hospital Portlaoise from these statements. In addition, the titles of these statements should be amended to remove the word patient so that it better reflects the people who use maternity services.

Monitoring of maternal and neonatal outcomes

A range of different clinical measurements in relation to the quality and safety of maternity care were gathered in all maternity units and hospitals each month, in line with the requirements of the HSE's Irish Maternity Indicator System. This data is gathered nationally by the HSE's Office of the National Women and Infants Health Programme and the HSE's National Clinical Programme for Obstetrics and Gynaecology.⁽¹⁷⁾

This information allows individual maternity units and hospitals to benchmark their performance against national rates over time.⁽⁵⁴⁾ As well as gathering and collating this information, each maternity unit and hospital published Maternity Patient Safety Statements each month. As outlined in Chapter 2 of this report, maternity units and hospitals were also required to report data on maternal and neonatal outcomes to the National Perinatal Epidemiology Centre's perinatal mortality and severe maternal morbidity databases.^(81,86,87) Where relevant, Vermont Oxford Network data was also collected and reported across the 19 maternity units and or hospitals.⁽⁸⁸⁾ In this regard, HIQA found that maternity services were more advanced in their approach to the systematic benchmarking of service safety, than many other clinical services provided in Ireland.

Inspectors found that all 19 maternity units and hospitals had a process in place for review of this performance data at senior management level. In addition, HIQA identified that a number of maternity units and hospitals had developed additional key performance indicators and had started to move beyond the established outcome measures as outlined above. Examples of developments in this regard — which aim to have a significantly positive impact on women and their newborns — included:

- The majority of maternity units and hospitals collected and reported on data required for the HSE Nursing and Midwifery Quality Care-Metrics.⁽⁸⁹⁾
- All maternity units and hospital in the RCSI Hospitals Group monitored the number of women who were offered a fetal anomaly ultrasound each month. They also all monitored the uptake of staff training, such as cardiotocograph interpretation and neonatal resuscitation.
- Maternity units in the Saolta University Health Care Group also monitored the provision of fetal anomaly ultrasounds, the rate of vaginal births after caesarean section and the number of newborns admitted to neonatal care units with low temperatures.
- Portiuncula University Hospital, a maternity unit in the Saolta University Health Care Group, used a maternity dashboard to monitor clinical activity, maternal and neonatal outcomes, provision of one-to-one care in labour, consultant presence in the labour ward and uptake of staff training each month. This dashboard set local goals and used a traffic light system for each of the parameters monitored. Maternity dashboards have been shown to be beneficial in monitoring performance and governance of maternity services locally and against best practice in other jurisdictions.⁽⁹⁰⁾

Clinical audit

Clinical audit is described as the process of assessing current practice against standards and evidence-based care. Clinical audit identifies areas of good practice as

well as areas of practice requiring improvement.⁽⁴⁵⁾ Inspectors found that 16 maternity units and hospitals had implemented an annual clinical audit plan which had been agreed by senior management and which had set out the clinical audits to be completed each year.

In the three maternity units that did not have an agreed annual audit plan, inspectors found examples of some audit activity. Maternity units and hospitals ensured that clinical audit findings were reviewed through patient safety and quality forums. HIQA found that the monitoring of the implementation of recommendations arising from clinical audits required improvement in seven maternity units and hospitals.

Inspectors found that some maternity units and hospitals had dedicated staff members — such as a clinical audit co-ordinators — who had responsibility and oversight of the clinical audit activity in the service and the implementation of recommendations. This, therefore, ensured the completion of a clinical audit cycle.*****

In addition to clinical audits conducted locally, inspectors found that the HSE had undertaken a number of clinical audits to monitor compliance with NCEC clinical practice guidelines in relation to sepsis and clinical handover in maternity services.^(48,49) This is a welcome development, and it will support maternity services in assessing their compliance with implementation of these essential clinical practice guidelines.

Feedback from women

Inspectors found that in line with national guidelines, all maternity units or hospitals had a process in place to monitor compliments and respond to complaints from women using maternity services.⁽⁹¹⁾ Complaints and feedback from women using the maternity service were agenda items at either senior hospital management team meetings or at quality and safety forums in all maternity units and hospital inspected.

Inspectors observed how some maternity units and hospitals had implemented service improvements in response to feedback from women. These improvements are described in the inspection reports for each individual maternity unit and hospital, published on www.hiqa.ie.

Overall, HIQA found that most maternity units and hospitals, through their respective hospital management teams and quality and patient safety committees, proactively monitored, analysed and responded to information from multiple sources including:

***** Clinical audit is a cyclical process which includes five stages; planning, standard/criteria selection, measuring performance, making improvements and sustaining improvements.

- serious reportable incidents
- clinical incident reviews
- risk assessments
- compliments and complaints
- clinical audits
- women's experience surveys.

In doing so, maternity units and hospitals were able to gain a critically important and broad understanding of the quality and safety of services provided, emerging trends and risks to women and babies using the maternity services, and the experiences of people using these services. Assuring the safety and quality of maternity services requires active leadership, governance and clinical commitment to safety and quality at a local, regional and national level.⁽¹⁾ The emerging culture of proactive assurance and national oversight of Irish maternity services has been a significant positive finding of this monitoring programme.

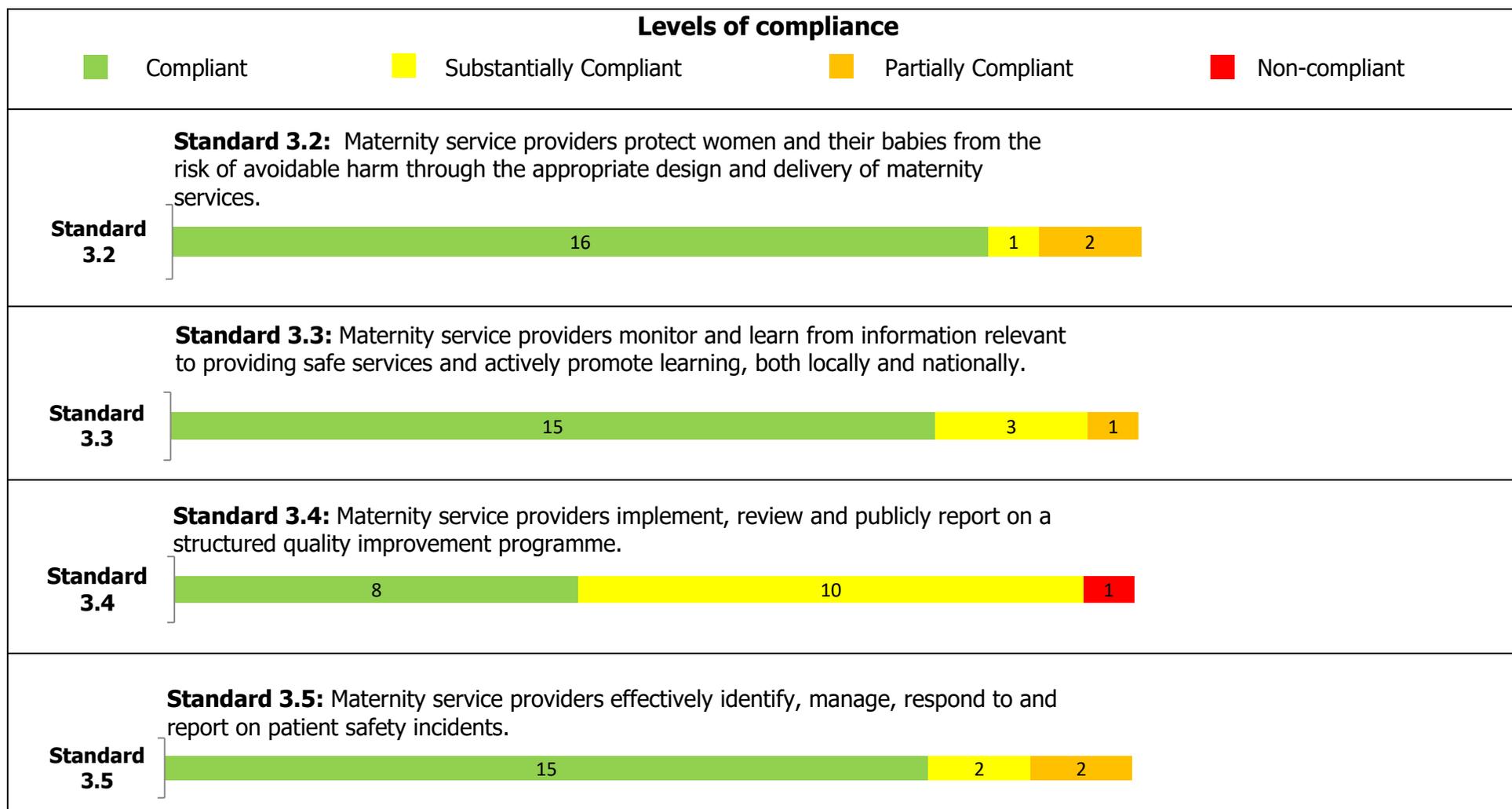
3.2.2 Safe care and support

A maternity service that is focused on safe care and support is continually looking for ways to be more reliable and to improve the safety and quality of its service.⁽¹⁾

Improving safety depends on recognising when something has gone wrong, carrying out a safety investigation and learning lessons to improve the service and reduce the risk of a future reoccurrence.⁽⁹²⁾

With a focus on obstetric emergencies, HIQA reviewed how risks to the maternity service were identified and managed, how patient safety incidents were reported and what arrangements were in place to ensure learning was shared across the service. HIQA monitored compliance against four specific national standards relevant to safe care and support. Figure 7 outlines the level of compliance across the 19 maternity units and hospital with those national standards.

Figure 7. Level of compliance across the 19 maternity units and hospitals with four of the *National Standards for Safer Better Maternity Services* relevant to safe care and support



Key findings related to safe care and support at individual unit and hospital level

- All maternity units and hospitals had systems in place for identifying risks, and there was oversight of identified risks at senior management level.
- While all maternity services had systems in place for reporting and managing clinical incidents, levels of reporting of clinical incidents varied across the maternity services.
- There was room for improvement in relation to sharing learning from reviews of reported clinical incidents both at local and national level.
- All maternity services were undertaking quality improvement initiatives; however, 11 maternity services did not have a structured and resourced quality improvement programme in line with the national standards.

Risk management

As with any healthcare service, maternity care carries, through necessity, a burden of risk which needs to be effectively managed. While it is true that birth is not without risk, every woman wants and has a right to the safest possible birth for herself and her baby.⁽⁹²⁾ Healthcare providers and professionals must always take whatever measures are necessary to prevent avoidable harm by providing safe systems of care that minimise risks where possible.⁽⁹³⁾

HIQA found that all maternity units and hospitals had some systems in place to identify and manage risks and that there was oversight of identified risks at senior management level. All hospitals had a risk register in place which recorded risks relevant to maternity services. Inspectors found that services had processes in place to ensure that risks were reviewed and addressed at a senior level within the organisation. Inspectors found that risks that could not be managed at local level were escalated to hospital-group level. Two risks commonly recorded on hospitals' risk registers included recruitment and retention of medical, midwifery and nursing staff; and maternity unit or hospital infrastructure.

Clinical incident reporting

The national standards state that maternity service providers should have arrangements in place to identify, manage, respond to and report on clinical incidents. In Ireland, all public hospitals indemnified by the Clinical Indemnity Scheme are obliged under legislation to report all adverse clinical incidents via the National Incident Management System, which is operated by the State Claims

Agency.⁽⁹⁴⁾ Inspectors found that all maternity units and hospitals reported patient safety incidents on the National Incident Management System.

All 19 maternity units and hospitals published the number of clinical incidents reported to the National Incident Management System as a component of their maternity patient safety statements each month. There is a positive association between high rates of incident reporting and a good patient safety culture.^(94,95) Inspectors found that rates of reported clinical incidents among maternity units and hospitals with similar birth rates varied. This variation may potentially indicate under-reporting of clinical incidents in some maternity units or hospitals.

All services reviewed serious reportable events and serious incidents at serious incident management team meetings at hospital or hospital-group level. Two hospital groups — Saolta University Health Care Group and RCSI Hospitals Group — each held maternity-specific serious incident management forums for the maternity units and hospitals in their respective hospital group. These forums oversaw the review of serious adverse clinical events and the implementation of any subsequent recommendations across maternity services in the hospital group. Inspectors found that support at hospital-group level for review and management of serious incidents and serious reportable events was viewed positively by clinical staff and managers working in the smaller maternity units in Saolta University Health Care Group and RCSI Hospitals Group. This structure to oversee the management of adverse clinical events and implementation of recommendations to improve maternity care should be considered for implementation across all hospital groups.

Maternity services reported challenges in completing systems analysis investigations of patient safety incidents within recommended timelines due to the resources required for such investigations.⁽⁹³⁾

In 2018, the HSE issued updated guidance on managing clinical and non-clinical incidents.⁽⁹³⁾ This framework gives managers a number of approaches for conducting patient safety reviews and investigations, including 'after-action reviews'.^{§§§§§§§§§§} Inspectors found that managerial and clinical staff from most maternity units and hospitals attended training and education on undertaking after-action reviews. During the time frame of HIQA's inspection programme, the roll-out of this training was at an early stage. Nonetheless, inspectors saw examples of where after-action reviews enabled the timely identification of learning to reduce the risk of reoccurrence of a clinical incident.

§§§§§§§§§§ After-action review is an intervention that is undertaken before or soon after the event occurs and seeks to understand the expectations and perspectives of all those staff involved. It generates insight from the various perspectives of the multidisciplinary team, leads to greater safety awareness, changes team behaviours and assists in identifying actions required to support safety improvement.

Sharing of learning to improve maternity care

Good governance ensures learning systems are set up to capture and share all experiences within an organisation in order to improve the system.⁽¹⁾ During HIQA's monitoring programme, clinical staff and hospital managers gave examples of how feedback and learning from reported clinical incidents was shared with midwifery, medical and nursing staff to improve clinical practice. Inspectors found that multidisciplinary meetings and clinical handover were the most common methods used to share feedback and learning from reported clinical incidents with clinical staff.

HIQA also found some maternity hospitals and hospital groups had additional processes to share learning from reported clinical incidents. For example, University Maternity Hospital Limerick and maternity units and hospitals within the RCSI Hospitals Group shared anonymised learning notices and alerts with clinical staff. The Coombe Women & Infants University Hospital published staff newsletters every three months which included safety alerts and learning from reviews of reported clinical incidents.

It is necessary that all maternity units and hospitals have arrangements in place for the sharing of learning and implementation of recommendations of reviews of clinical incidents.

Quality improvement programmes

The national standards require maternity services to implement, review and publicly report on a structured quality improvement programme. This programme should be based on identified needs and priorities, learning from patient safety incident reports and reviews, and national and international initiatives. The programme should also incorporate specific evidence-based interventions that are proportionate to the context, nature and scale of the service provided.⁽¹⁾

HIQA found that while all maternity services were undertaking quality improvement work, only eight maternity units and hospitals had a structured and resourced quality improvement programme in place.

The following are examples of quality improvements initiatives undertaken in some maternity services:

- the implementation of a care bundle aimed at reducing the incidence of third and fourth degree perineal tears*****
- a number of maternity services had standardised obstetric haemorrhage and neonatal resuscitation trolleys

***** A perineal tear is a laceration of the skin and other soft tissue structures which, in woman's anatomy, separate the vagina from the anus. Perineal tears mainly occur in women as a result of vaginal childbirth

- an individualised care plan for women with high-risk pregnancies admitted for long antenatal stay, for example, women with placenta praevia⁺⁺⁺⁺⁺
- a 'fresh eyes' initiative was implemented in a number of the maternity units and hospitals whereby a second midwife reviewed cardiotocography tracings of all women having continuous fetal monitoring at regular intervals to reduce the risk of errors in cardiotocography interpretation
- a number of maternity services implemented 'lunch and learn' initiatives where weekly educational sessions were available to provide updates on key aspects of clinical practice to front-line staff
- the developed of a support group for women with placenta accreta
- implementation of Schwartz Rounds⁺⁺⁺⁺⁺ to facilitate staff to reflect on the clinical and emotional aspects of their work
- three maternity units and hospitals facilitated workshops that included participation from maternity service users, support groups, clinical staff and managers aimed at improving the experience of women
- one hospital provided non-clinical staff, such as hospital porters and reception staff, with a specific training programme on the management of emergency situations
- in addition to multidisciplinary training for obstetric emergencies, one maternity hospital provided a mandatory evidence-based training programme for clinical and non-clinical staff to enhance team working across the hospital
- use of a training 'passport' where midwifery staff recorded attendance and uptake of mandatory training appropriate to their scope of practice.

3.3 Conclusion to findings chapter

This chapter has provided an overview of the cumulative findings from HIQA's inspections in all 19 maternity units and hospitals to determine compliance against the *National Standards for Safer Better Maternity Services*, with a focus on obstetric emergencies.

Compliance with the 21 national standards assessed under the four themes of: leadership, governance and management; workforce; effective care and support;

⁺⁺⁺⁺⁺ Placenta praevia occurs when a baby's placenta partially or totally covers the mother's cervix — the outlet for the uterus. Placenta praevia can cause severe bleeding during pregnancy and delivery.

⁺⁺⁺⁺⁺ Schwartz Rounds are conversations held with clinical staff to discuss the emotional impact of their work. They provide staff with an opportunity to reflect on the emotional impact of their work through conversations facilitated by a local clinical lead and facilitator. See <https://www.hse.ie/eng/about/who/qid/staff-engagement/schwartzrounds/>.

and safe care and support was reasonably good across the 19 maternity units and hospitals. However, some maternity units and hospitals require significant improvement to be compliant with certain national standards.

During this monitoring programme, HIQA identified that two maternity units performed poorly with respect to compliance with some of the 21 national standards assessed. A follow up inspection was conducted in these two maternity units, which identified improvements in the level of compliance, with further work required to ensure compliance with some national standards.

Individual reports of the findings of this monitoring programme for each maternity unit and hospital have been published alongside this overview report. HIQA has recommended that each maternity unit and hospital address the opportunities for improvement identified in the individual reports with the support of their respective hospital group and continue to progress with the transition to a maternity network for the enhancement of a safe, high-quality maternity service.

HIQA also looked at the arrangements in place for the implementation of aspects of the National Maternity Strategy. This has identified conclusions and recommendations for the HSE, at national level, to drive improvements in line with the requirements of both the national standards and the National Maternity Strategy throughout the remaining time frame of the strategy. The following chapter presents HIQA's concluding commentary on both these arrangements and the cumulative findings of this monitoring programme.

Chapter 4 – Conclusions and recommendations

Introduction

Following its 2015 investigation of the quality and safety of maternity care at Midland Regional Hospital Portlaoise, HIQA developed specific standards for maternity services in Ireland to enable services to safeguard women using these services and to improve the quality of care provided. The *National Standards for Safer Better Maternity Services* were approved by the Minister for Health and published by HIQA in December 2016, setting the expectation that all maternity services would work to meet these national standards.

Following HIQA recommendations in October 2013 and May 2015, the Minister for Health launched the National Maternity Strategy: *Creating a Better Future Together: 2016–2026*. The strategy sets out significant restructuring and reform of maternity and neonatal services over a 10-year period.

HIQA's *National Standards for Safer Better Maternity Services* were designed to support the implementation of the strategy. HIQA conducted its first national monitoring programme in 2018 and 2019 to assess compliance against the national standards in 19 maternity services. A risk-based approach was undertaken, focusing on the systems in place in each maternity unit and hospital to detect and respond to obstetric emergencies, to identify women at higher risk of complications and to facilitate care of ill women and their newborn babies in the most appropriate setting.

This monitoring programme assessed a maternity service's level of compliance with 21 of the 44 national standards under the four themes of:

1. Leadership, Governance and Management,
2. Workforce,
3. Effective Care and Support and
4. Safe Care and Support.

HIQA also considered the progress made with implementation of the relevant components of the National Maternity Strategy.

Overall, HIQA found that maternity services had systems in place to detect and respond to obstetric emergencies and were compliant or substantially compliant with most of the 21 national standards monitored. However, two maternity units performed poorly and HIQA conducted follow-up inspections in both units which identified improvement in the level of compliance, with further work required to ensure full compliance with some national standards.

In general, findings from this monitoring programme provide an assurance to the public and service providers about the current quality and safety of arrangements in place to manage obstetric emergencies. Examples of good practice are outlined in

Chapter 3 of this overview report and in each of the 19 individual maternity unit or hospital reports. HIQA notes the overall level of professionalism, teamwork and commitment displayed by staff providing maternity services and care across the country — in what is a high pressure and demanding environment.

Nonetheless, opportunities for improvement were also identified in individual maternity units and hospitals. In addition, HIQA had concerns regarding the capacity and capability of the maternity services as currently resourced and structured to fully implement the national standards and the National Maternity Strategy.

This chapter explores these opportunities for improvement, and HIQA's eight associated recommendations.

4.1 Key findings at hospital group, maternity unit and hospital level

Key findings related to leadership, governance and management at hospital group, maternity unit and hospital level

Maternity networks

Findings from previous HIQA and HSE investigations and reviews into maternity services have identified the need to establish maternity networks to strengthen and enhance the quality and safety, operational resilience and sustainability of clinical services in smaller maternity units. The National Maternity Strategy also recognises that smaller maternity units cannot operate in isolation and require support from larger maternity hospitals through maternity networks to facilitate the sharing of clinical services and expertise.

HIQA found that none of the hospital groups had fully established a maternity network under a single governance framework at the time of inspection; however, some were at more advanced stages of development than others.

While the establishment of maternity networks presents a number of challenges, more effective long-term planning, that integrates local strategic plans with regional and national strategic plans for the health service, is required. The National Maternity Strategy should act as a guiding template for facilitating the implementation of maternity networks at a national level.

Leadership, governance and management at maternity unit and hospital level

All 19 maternity units and hospitals were found to have an identified person who had overall responsibility and accountability for the safety and quality of the maternity service within their hospital. Furthermore, by the end of this monitoring programme, all maternity units and hospitals had a director of midwifery in place and had clinical leads in the specialties of obstetrics, anaesthetics and paediatrics or neonatology to provide clinical leadership of the maternity services. Both of these

findings are welcomed and are of critical importance in ensuring strong leadership of services locally.

Key findings related to workforce

The national standards require services to plan, organise and manage their workforce to achieve safe, high-quality maternity care. HIQA found that most maternity units and hospitals worked to deliver safe maternity care in an environment of medical, midwifery and nursing staff shortages. Such shortages raise concerns about the long-term sustainability of the provision of safe, high-quality maternity services across the 19 maternity units and hospitals.

Midwifery and nursing staffing

HIQA acknowledges the ongoing recruitment to fill key midwifery and nursing positions and support the provision of care as outlined in the National Maternity Strategy. For example, there was ongoing recruitment of midwives who were trained and qualified to provide fetal ultrasonography; clinical midwives or nurse specialists to support bereaved parents; and specialist perinatal mental health midwives and nurses.

Notwithstanding the efforts to recruit and fill these specialist positions, maternity units and hospitals used a number of measures to manage existing midwifery staffing shortages to keep maternity services safe. These measures relied on existing midwifery staff working overtime; the employment of agency staff; and internal rotation and redeployment of midwives within the maternity unit or hospital. Despite staffing shortages, nearly all maternity units and hospitals had a lead senior midwife (shift co-ordinator) in place for each shift in the labour ward to oversee the clinical activity and facilitate communication between members of the multidisciplinary team. All maternity units and hospitals had arrangements in place to ensure operating theatre nursing staff were available for emergency surgery, including, for example, emergency caesarean sections 24/7.

HIQA also found that while each maternity unit and hospital was striving to attain the neonatal nurse staffing ratios in line with the HSE's model of care for neonatal services, a number of neonatal units had experienced persistent nursing shortages, despite national and international recruitment efforts.

While there are prevailing staffing challenges faced in midwifery, the requirements for the proposed care pathways as outlined in the National Maternity Strategy will also have a significant impact on midwifery workforce requirements into the future. HIQA is concerned that national midwifery shortages have the potential to impede progress, in particular with the development of the care pathways outlined in the National Maternity Strategy and may impinge on women's choice.

Evidence-based workforce planning tools are widely used to determine midwifery staffing requirements. In 2016, the HSE set out the baseline midwifery staffing requirement for maternity services at that time. This was based on the Birthrate Plus® methodology, which is an evidence-based tool used extensively in the UK and other countries. HIQA found that, in Ireland, the tool was not used as designed on a continuous basis, but rather at a point-in-time, to determine required midwifery workforce staffing levels. Using the tool in this way, does not show the atypical patterns or practices of the maternity services. There are other significant factors such as demographic composition, clinical casemix and quality of care indicators that will impact on applying midwife to birth ratios in a local setting and these need to be considered. HIQA recommends that the use of the Birthrate Plus® tool be reviewed to allow for accurate midwifery workforce planning required to provide safe, high-quality care on a continuous basis.

Medical staffing

Difficulties around recruitment in medical specialties in Ireland have been well reported. HIQA's monitoring programme found maternity services experienced significant difficulty in recruiting for approved permanent hospital consultant posts across the medical specialties of obstetrics, anaesthesiology, paediatrics and neonatology. Despite recruitment campaigns, HIQA found that 15% to 20% of approved permanent consultant positions in these specialties (nearly one in five posts) remained unfilled. For example, a number of approved consultant obstetrician positions were not filled in six maternity units and hospitals. These services had to rely on the employment of locum consultants to address the consultant staffing deficit.

HIQA identified that some locums employed did not always hold specialist registration with the Medical Council, as required by the HSE. HIQA escalated concerns regarding this practice to senior HSE management in 2018. Following this, the HSE reported to HIQA that mechanisms to ensure senior managerial oversight of this concern were developed, as well as formal mechanisms for clinical governance of non-specialist registered doctors employed as consultants. An assessment of these arrangements did not fall within the scope of this monitoring programme and therefore is not included in this report.

Notably, HIQA found that the maternity units that experienced the greatest difficulties in recruiting and retaining consultant medical staff were often those operating with relatively onerous on-call rosters. Most maternity units are operating with medical team rosters which, for example, result in on-call commitments for consultants in obstetrics, anaesthetics, neonatology and paediatrics of less than one in every five nights. This means these doctors have to be ready and available to be called into the hospital to attend an emergency or provide telephone advice in the evening or middle of the night. This leads to challenges around both roster sustainability and the ability to fill vacancies that arise. HIQA believes that this level

of on-call commitment by consultant staff is unsustainable in the longer term and may potentially result in staff attrition and challenges in attracting future applicants.

Non-consultant hospital doctors – not on a recognised training scheme

International medical workforce shortages, together with the demands of implementing the EU European Working Time Directive (which limits people's working hours) have resulted in an ever greater reliance on non-consultant hospital doctors (NCHDs) who are often not on a recognised training scheme to staff maternity services.

HIQA found that many smaller maternity units relied heavily on the work and commitment of NCHDs — all of whom are registered medical professionals — who were not on a recognised training scheme. Being part of, or completing, such training schemes is an assurance of the assessed competence of doctors who rotate into a service from other hospitals. Increased numbers of medical staff completing these training programmes also increases the pool of potential candidates for consultant posts in the longer term. In some maternity units inspected, some NCHDs who were not on a recognised training scheme have remained in post for a number of years providing a vital service and a degree of workforce stability over that time.

While acknowledging previous work completed by the Department of Health in relation to medical training and career structure, HIQA found that there was no formalised training and career pathway in Ireland for these NCHDs. Relying on these NCHDs to provide 24/7 maternity services in many parts of the country, in the absence of a formalised training and career pathway, is a potentially precarious situation which needs to be comprehensively addressed by the HSE and medical training bodies.

Medical staffing — anaesthetic services

The national standards require maternity units and hospitals to have a dedicated anaesthetic service. With the exception of the four stand-alone maternity hospitals, anaesthesia for the country's maternity services was being provided from within the wider acute general hospital anaesthesiology service. The National Maternity Strategy acknowledges that, while the minimum level of service for a co-located maternity unit needs to be defined, an on-call rota of two consultant anaesthesiologists and two NCHDs in anaesthesiology is required. This requirement was further endorsed by the HSE's Chief Clinical Officer in 2016. HIQA found variation in the level of anaesthetic cover outside of core working hours in co-located maternity units. Only four of the 15 hospitals with co-located maternity services met the requirement of having two consultant anaesthesiologists providing on-call cover from home outside of core working hours and a minimum of two NCHDs in anaesthesiology on site in the hospital.

Medical staffing — neonatal services

The Model of Care for Neonatal Services in Ireland, published by the HSE's National Clinical Programme for Paediatrics and Neonatology in 2015, recommends that each of the four level-2 neonatal units should be staffed by a combination of consultant neonatologists and consultant paediatricians with a special interest in neonatology. HIQA found that three of the four level-2 neonatal units had the consultant staffing combination as outlined in these national guidelines. However, one level-2 regional neonatal unit was staffed with consultant paediatricians with a special interest in neonatology but did not employ consultant neonatologists. These guidelines also recommend that level-2 neonatal units should have a separate neonatology roster from the general paediatric roster. However, only one of the four level-2 regional neonatal units had separate rosters for neonatology and paediatric services; three did not.

Training and education of multidisciplinary teams

A properly resourced and well-trained multidisciplinary team is a fundamental requirement for providing a safe, high-quality maternity service. Multidisciplinary training programmes in the management of obstetric emergencies have been developed to improve maternal, neonatal and perinatal outcomes.

All maternity services were found to facilitate a multidisciplinary training programme, where obstetricians, midwives and anaesthesiologists were provided with a combination of lectures and scenario-based simulation training in obstetric emergencies. Multidisciplinary skills and drills in relation to obstetric emergencies were also provided in all maternity services. However, there was little consistency in the frequency of these sessions across services.

HIQA found all maternity units and hospitals also provided training on cardiocography interpretation and neonatal resuscitation. While the training programme for neonatal resuscitation was standardised across all maternity units and hospitals, this was not the case for multidisciplinary training in the management of obstetric emergencies and cardiocography interpretation. A standardised approach to such training would provide a consistent approach in the detection and management of obstetric emergencies and cardiocograph interpretation across maternity services.

The monitoring and recording of staff attendance at mandatory training provides assurance to managers that all relevant staff have attended required training appropriate to their scope of practice. HIQA found that both attendance, and monitoring of attendance, at relevant training required considerable improvement. Hospital managers reported difficulties with monitoring and accurate reporting on the uptake of mandatory training in the management of obstetric emergencies,

neonatal resuscitation and cardiotocography interpretation when NCHDs rotated between maternity services.

In relation to the maintenance of training records, HIQA is conscious that many staff in Irish maternity services, particularly NCHDs, may be relatively transient, with a requirement to rotate to a different service or area of care every six months. Therefore, the HSE needs to develop a central record of training attendance for these staff to ensure records are accessible across the system in the interest of efficiency for both staff and managers of services.

Key findings related to effective care and support

Women and their babies should have access to safe, high-quality care in a setting that is most appropriate to their needs. Effective care is achieved through services using evidence-based information to inform treatment, and is promoted by a service's ongoing evaluation of clinical outcomes and of the effectiveness of the design and delivery of maternity care.

Overall, HIQA found that most maternity units and hospitals had arrangements in place to identify women at higher risk of complications and to ensure their care was being provided in the most appropriate setting. All maternity units and hospitals had arrangements in place to respond to obstetric and neonatal emergencies, with response teams available 24/7. This represents a critical safety measure across maternity services.

Access to fetal ultrasound during pregnancy is an important aspect of antenatal care. This identifies women at higher risk of complications and enables access to appropriate services, such as fetal medicine experts and facilitate multidisciplinary assessment, management and support.

Fourteen maternity units and hospitals provided fetal ultrasound services at intervals set out in the national standards. The remaining five maternity units were working towards providing fetal ultrasound at the required intervals to all women accessing their maternity services from 2020. It is imperative that women, regardless of geographic location, are provided with fetal ultrasound services at the recommended intervals so that additional referrals and support may be identified and implemented during pregnancy and at birth.

Care pathways for women and newborns

The National Maternity Strategy sets out three care pathways — supported, assisted and specialised — that should be made available to pregnant women. As described in Chapter 2, the supported care pathway provides a model of care for women with normal-risk pregnancies where midwives managing and delivering care are supported by a multidisciplinary team.

HIQA's found that twelve maternity units and hospitals provided a model of care where midwives were managing and delivering care supported by a multidisciplinary team. Two of these maternity units had a midwifery-led unit on site, in line with the supported care pathway as defined in the National Maternity Strategy. Three further maternity units were at the early stages of developing a supported care pathway; for example, they provided hospital and community-based midwifery-led clinics. The remaining four maternity units had yet to commence the development of a care pathway for women with normal-risk pregnancies during the time frame of the on-site inspections.

HIQA identified the need for more effective national co-ordination and leadership to advance supported care pathways, as described in the strategy. In addition, it is important to consider how this and the other two care pathways (assisted and specialised) will interface with general practice (family doctors) and how their implementation will determine the midwifery workforce requirements of maternity services going forward.

Care pathways for specialist service and critical care

Maternity services should make the best use of available resources and have effective arrangements in place — where possible, through maternity networks — to access specialist services and critical care. HIQA found that women and newborns were being routinely transferred to tertiary hospitals for more specialised treatment, should their clinical condition require it. This is good practice, and the formation of maternity networks will further support this practice.

However, HIQA found that the arrangements to underpin this practice between the transferring and receiving maternity units and hospitals were not formalised in most instances. Three hospital groups had formalised arrangements for the referral and transfer of women at high risk of complications and newborns requiring complex neonatal care. For example, HIQA notes the value of a mandatory transfer and acceptance policy from hospitals in the South/South West Hospital Group to the tertiary Cork University Maternity Hospital. HIQA recommends that efforts to replicate this approach across other hospital groups be advanced in the short-term as a key safety measure, while maternity networks continue to be developed.

Notwithstanding this, HIQA acknowledges that, in some instances, the full range of services that might be required for every woman and or newborn may not be available within the confines of each hospital group where issues such as operating theatre capacity and lack of specialist neonatal services exist. In such circumstances, formalisation of arrangements across networks will also be required.

HIQA is aware that it may take some time to fully establish maternity networks across the hospital groups providing maternity services. So, a key initial safety net for women and newborns that should be progressed without delay in the intervening

period is improved formalisation of transfer and acceptance arrangements between smaller maternity units and larger maternity hospitals.

In relation to newborns, HIQA observed the important work of the National Neonatal Transport Programme, which is used across maternity services to transfer babies to regional and tertiary neonatal units. This service is available 24/7 and represents a very important means of ensuring that babies who need more specialised care are able to receive this in a timely manner regardless of where they are born in the country.

[Policies, procedures and clinical guidelines](#)

The National Clinical Effectiveness Committee (NCEC) was set up by the Minister for Health in 2010 to provide strategic leadership on promoting safety and quality improvement in healthcare. It has ratified and published clinical practice guidelines on Irish Maternity Early Warning Score and Sepsis Management which have been fully implemented across maternity services. However, all elements of the NCEC clinical practice guideline on communication (clinical handover) in maternity services was not fully implemented in all maternity units and hospitals.

In addition, the HSE's National Clinical Programme for Obstetrics and Gynaecology, developed a number of clinical guidelines relevant to the care of pregnant and postnatal women, a number of which were in response to HIQA's statutory investigations into maternity services and remain an important evidence-base for the consistent delivery of safe, high-quality care. HIQA found that the clinical practice guidelines relating to obstetric emergencies were in use across maternity services, but significantly a number of these clinical practice guidelines were out of date.

At the time of compiling this report, the HSE's National Clinical Programme for Obstetrics and Gynaecology has been integrated into the HSE's National Women and Infants Health Programme. HIQA recommends that these clinical guidelines be reviewed and revised without delay under the governance of the National Women and Infants Health Programme to ensure that the HSE clinical guidelines in place inform the provision of care in line with best available evidence.

[Physical environment and infrastructure challenges](#)

The *National Standards for Safer Better Healthcare* (2012) and the *National Standards for Safer Better Maternity Services* (2016) clearly state that health and maternity care must be provided within an appropriate physical environment.

Each woman and newborn has the right to be cared for in a safe, secure and comfortable environment that protects and promotes their dignity and privacy and minimises the risk of acquiring a healthcare-associated infection. Furthermore, the care environment should enable a timely response to an emergency, enhance women's and families' experiences and, when possible, meet their preferred choices.

Therefore the physical environment should be responsive to women's needs, and promote and protect the health and wellbeing of women and their newborns.

HIQA consistently found the physical environment within which maternity services are being provided to be in a poor state. This could have a potentially significant and negative impact on women's comfort, dignity and privacy, and increases the potential risk of cross infection for women and newborns. There is also the potential that cramped, overcrowded and cluttered environments could hinder timely access to a woman and or newborn during an emergency.

A number of maternity services do not have the resources or capacity to expand the size of accommodation and facilities within the current physical space available to them.

HIQA notes the plans outlined in the Government's *Project Ireland 2040 National Planning Framework* to progress the co-location of four stand-alone maternity hospitals to the campus of acute general hospitals. This represents a very significant investment by the State and is a vital and welcome development. The co-location of the National Maternity Hospital to St Vincent's University Hospital is the first of four planned co-location efforts, with University Maternity Hospital Limerick, the Coombe Women & Infants University Hospital and the Rotunda Hospital all set to follow suit.

The HSE Capital Plan (2019) indicates that design of a new maternity unit at University Hospital Galway was ongoing in 2019 with enabling works to commence in 2020. Of the remaining 14 maternity units and hospitals that were not included in the HSE's plan, two were compliant, two were substantially compliant, one was partially compliant and nine maternity units were non-compliant with the national standard on physical environment (Standard 2.7).

Compliance with national standards cannot be achieved without significant investment to improve the current infrastructure and physical environment of most of Ireland's maternity services. HIQA's findings identify a need for a highly ambitious programme of capital investment if the physical environment of all maternity services is to comply with national and international best practice.

There is a need to both fully evaluate and address the totality of requirements that exist to bring each maternity unit and hospital up to compliance with the national standards. In the short-term, specific risk issues related to physical environment and infrastructure identified in each individual inspection report must be addressed. While there are long-term plans in place to co-locate hospitals, these changes will take many years to progress. Therefore there will likely need to be additional remedial investment provided to address specific risk issues in the stand-alone maternity hospitals until the planned co-location of maternity services.

All maternity units and hospitals must implement the required immediate measures in the short-term to improve the environment for women and newborns.

Furthermore, the HSE, at a national level, must identify the required investment needed to address the physical environment and infrastructural concerns identified through this monitoring programme.

Monitoring and evaluation of maternity service quality and safety

A range of different clinical measurements in relation to the quality and safety of maternity care were being collected and collated in all maternity units and hospitals each month. This information allowed maternity units and hospitals to closely monitor service performance and benchmark their services with other maternity services nationally and internationally. In addition, each maternity unit and hospital published a Maternity Patient Safety Statement each month.

All maternity services had a process in place for reviewing this information at senior management level. In addition, a number of maternity units and hospitals had developed additional key performance indicators and had started to move beyond established outcome measures. Maternity service providers reviewed clinical audit findings at safety and quality forums. Nonetheless, the monitoring of the implementation of recommendations arising from clinical audits in a number of maternity units and hospitals required improvement.

HIQA found that maternity services were more advanced than other national clinical services to systematically benchmark service safety using internationally validated outcome measure comparators.

Key findings related to safe care and support

A maternity service that is focused on safe care and support is continually looking for ways to be more reliable and to improve the safety and quality of its service. HIQA found that, by the conclusion of this monitoring programme, all maternity units and hospitals had systems in place for identifying risks, and there was oversight of identified risks at senior management level. In addition, maternity services had systems in place for reporting and managing clinical incidents. However, in some maternity units, improvements could be made in the reporting of clinical incidents. While all maternity services were undertaking quality improvement initiatives, the majority of maternity services did not have a structured and resourced quality improvement programme in place, in line with the national standards.

Throughout the course of this monitoring programme, HIQA identified that positive work was being conducted at individual unit, hospital or hospital group level to both proactively progress the quality and safety of services, and to learn when things went wrong. It was also evident to HIQA that more could be done to improve shared learning across the maternity services so as to minimise and reduce the risk of reoccurrence of preventable clinical events that cause harm to women and newborns. Consequently, HIQA recommends that the HSE develop and implement

mechanisms to better enable the sharing of learning and valuable lessons from where services did not perform well or indeed fell short of the required standard.

4.2 Key findings at national level

Leadership, governance and management at a national level - *National Standards for Safer Better Maternity Services* and the National Maternity Strategy

A key initial output of the National Maternity Strategy was the creation of the National Women and Infants Health Programme within the HSE. The National Women and Infants Health Programme was charged with providing leadership and governance oversight of the implementation of the National Maternity Strategy from 2016 to 2026.

HIQA's national standards support the National Maternity Strategy. The strategy identifies the underpinning principles and models of care which will deliver a safe quality maternity service — now and into the future. This national policy provides a significant change in the way services are currently structured, governed, resourced and planned. In addition to the National Maternity Strategy, other Government policies — namely, the 2017 Sláintecare report and the National Trauma Strategy — also propose significant reform in health and social care services in the coming years.

At the time of concluding this monitoring programme, the governance arrangements in each maternity hospital and unit were clear. However, it was evident that the national governance arrangements to deliver the National Maternity Strategy lacked clarity — particularly as to who at national HSE level had responsibility and accountability for implementing the strategy. During this monitoring programme, HIQA was concerned that the national approach to planning was relatively short term in nature, with timelines and actions for the most part only covering a two-to-three year period. Furthermore, the implementation plan was not supported by detailed costings for all the required elements, with the exception of staffing, to be implemented over the lifecycle of the strategy. Significantly, the level of funding allocated to implement the strategy — while significant in its own right — has been relatively limited compared to the estimated cost of rolling out the implementation plan.

During the course of this monitoring programme, the HSE amended arrangements to provide further clarity in this regard. HIQA was informed that the National Women and Infants Health Programme now reported into the Office of the Chief Clinical Officer within the HSE, as of 3 September 2019.

In addition, HIQA was informed by the HSE in December 2019 that the HSE Chief Operations Officer held overall accountability and responsibility within the HSE for

the implementation of the National Maternity Strategy. The HSE also clarified to HIQA that the role of the National Women and Infants Health Programme is to oversee the implementation of the strategy as well as engaging with the services with respect to future planning and service needs.

Furthermore, a memorandum of understanding (MOU) was signed by the Chief Operations Officer of the HSE and the Chief Clinical Officer in October 2019. This document sought to provide clarity around roles and responsibilities across the HSE for implementing the strategy. The MOU included an intention to form a steering committee to oversee the National Women and Infants Health Programme. This committee, which will be chaired by the HSE's Chief Clinical Officer, will include representation from the National Women and Infants Health Programme, the HSE Acute Operations Division, the HSE Quality Assurance and Verification Division and the HSE Quality Improvement Division. At the time of concluding this overview report, it was too early to determine the effectiveness of these new arrangements.

Cognisant of the significance of Sláintecare, the National Trauma Strategy and other emerging policies, and the impact these policies may have on the planning arrangements for maternity services across the country, it is imperative that the HSE consider any planned changes and potential implications for maternity services.

4.3 Overall conclusion and moving forward

In general, the findings from this monitoring programme provide a reassurance around the current arrangements in place to detect and respond to obstetric emergencies across maternity services in Ireland. HIQA identified numerous examples of good practice, as outlined in each of the 19 individual maternity unit or hospital reports.

Throughout this monitoring programme, HIQA gained a valuable insight into the overall governance arrangements and challenges in delivering a safe quality maternity service at local unit, hospital, group and national level.

At HSE national level, HIQA welcomes the revised governance and reporting arrangements for the National Women and Infants Programme established following these inspections. HIQA believes that this will result in greater consistency in the approach towards implementing both the National Maternity Strategy and the national standards at local level and in establishing maternity networks.

With these arrangements in place, the HSE needs to immediately develop a comprehensive, time-bound and fully costed National Maternity Strategy implementation plan, which spans the remaining six years of the strategy. This plan should include clear governance and accountability arrangements for its implementation, with defined milestones, performance indicators, and named

persons with responsibility and accountability for implementing all actions at national HSE, hospital group, and maternity unit or hospital level.

A key component of the National Maternity Strategy is improved access and choice for women, including the establishment of maternity networks and enhanced care pathways for women and their babies. While some maternity services were at an advanced stage of establishing maternity networks, others were not.

The supported care pathway, for women at normal-risk pregnancy, was not available to all women across maternity services at the time of this monitoring programme. Some immediate interim measures could be put in place at a local and hospital group level to enhance the experience of these women and their babies — for example, the introduction of formalised mandatory transfer and acceptance protocols to ensure the provision of safe, high-quality care to those who need it in a timely manner. In the long run, a cohesive and time-bound approach to the ongoing organisation and establishment of maternity networks should be factored into the overarching implementation plan for the strategy.

It is clear from inspection findings that compliance with national standards on physical infrastructure is not currently being achieved. Full implementation of the National Maternity Strategy and compliance with the national standards will be challenged without significant investment to improve the current infrastructure and physical environment for most of Ireland's maternity services. The HSE, as part of a revised implementation plan for the National Maternity Strategy, should review maternity unit and hospital specific infrastructural requirements to enable the implementation of priority elements of the strategy.

The National Maternity Strategy refers to the significant impact on workforce requirements in implementing the new model of care for maternity services. HIQA recognises there have been numerous reviews and reports relating to workforce planning in almost all of the medical specialties and professions providing maternity services over the last number of years. However, given the ever changing demands on the health service and the increasing difficulties with staff recruitment, the HSE needs to review the current workforce arrangements in each maternity unit or hospital nationally, to determine the required levels of medical, midwifery and nursing staff and skill-mix needed to inform workforce planning to meet current and future demand for services. This should be considered in line with other wider national health policy developments in relation to workforce and in working towards compliance with the national standards.

HIQA also found inconsistency in of levels of attendance, and recording of attendance, at mandatory training in relation to key areas of obstetric emergencies, cardiotocography interpretation and neonatal resuscitation. There is a need for greater standardisation of multidisciplinary training related to obstetric emergencies and cardiotocograph interpretation across maternity services.

Finally, maternity services would benefit from a national system to facilitate the widespread sharing of learning from review of clinical incidents across all maternity services to prevent the reoccurrence of incidents and improve outcomes for women and their babies.

The HSE should now consider the overall findings and recommendations of this monitoring programme. Individual inspection reports on each maternity unit and hospital have been published alongside this overview report. HIQA recommends that each maternity unit and hospital address the opportunities for improvement identified in each inspection report at local level, with the support of their hospital group, and continue to progress the establishment of a formalised maternity network.

The HSE should develop a plan for implementing the recommendations of this monitoring programme. This plan should include clear actions and timelines for completion and include named persons with responsibility and accountability for implementation of these actions. This should be considered and implemented in tandem with an updated National Maternity Strategy implementation plan, clearly defining governance, oversight and coordination of both. This will result in a clear and transparent approach to implementation of the national standards and the National Maternity Strategy.

It is imperative that these recommendations are acted upon in a timely manner. This is required to ensure that the, generally positive, findings identified around service delivery in each maternity unit and hospital at the time of inspection are not only enhanced, but that they sustained for women and their babies into the future.

Recommendations

Recommendation 1

The HSE must immediately develop a comprehensive, time-bound and fully costed National Maternity Strategy implementation plan, which spans the remaining time frame of the strategy. This plan should include:

- a. clear governance and accountability arrangements for its implementation, with defined milestones, performance indicators, and named persons with responsibility and accountability for implementation of all actions at National HSE, hospital group, and maternity unit or hospital level
- b. a cohesive and time-bound approach to the on-going organisation and establishment of maternity networks, in accordance with the criteria defined within the National Maternity Strategy and the features of the *National Standards for Safer Better Maternity Services*
- c. continued alignment with the concurrent planning and implementation of relevant HSE national clinical care programmes and other relevant national healthcare policy objectives, including those outlined in *Sláintecare* and *A Trauma System for Ireland*.

Recommendation 2

The HSE should:

- a. fully evaluate and develop an implementation plan to address where feasible the totality of infrastructural deficits that exist to bring each maternity unit and hospital into compliance with *National Standards for Safer Better Maternity Services*, *National Standards for Safer Better Healthcare* and the *National Standards for the Prevention and Control of Healthcare Associated Infections in the Acute Healthcare Services*. Where the judgment is that such investment is not feasible, the HSE must clearly articulate their alternative plans, with aligned implementation timelines.
- b. review maternity unit and hospital specific infrastructural requirements to enable the implementation of specific elements of the National Maternity Strategy, such as the supported care pathway.

The above review and resulting plans should be included within the costed implementation plan of the National Maternity Strategy.

Recommendation 3

The HSE should conduct a review of current workforce arrangements in each maternity unit or hospital nationally, to determine the required levels of staff and skill-mix needed in the medical specialties of obstetrics, anaesthesiology, paediatrics and neonatology and the professions of midwifery and nursing. This review should be evidenced based and used to inform workforce planning to meet current and future demand for services at maternity unit and hospital level and across each maternity network.

Recommendation 4

The HSE must ensure that all clinical staff who are involved in the management of obstetric emergencies have received necessary multidisciplinary training, relevant to their scope of practice, in the areas of obstetric emergency management, cardiotocography interpretation and neonatal resuscitation in line with national standards. This will require;

- a. the development of a standardised national approach to the mandatory provision of multidisciplinary training will ensure that all relevant staff acquire and maintain the skills and knowledge to detect and respond to obstetric emergencies and cardiotocograph interpretation
- b. the development and implementation of a nationally accessible system to maintain live records of training completed by individual staff members.

Recommendation 5

The HSE should support and ensure that each hospital group takes immediate action to formally agree and implement mandatory transfer and acceptance protocols. These protocols should ensure that when required, women and newborns are transferred out of their current maternity unit or hospital to the most appropriate healthcare setting within or outside their hospital group in a timely and efficient manner.

Recommendation 6

The HSE should develop a national system that readily facilitates the sharing of learning from the review of clinical incidents across all maternity services to improve outcomes for women and their babies.

Recommendation 7

The HSE should review the wording of the Maternity Patient Safety Statements currently used by maternity services and remove the word patient from the title and any reference to the Midlands Regional Hospital Portlaoise in the purpose and context section.

Recommendation 8

The HSE should develop a plan for implementation of the recommendations of this national overview report. It should include clear actions and timelines for completion and include named persons with responsibility and accountability for implementation of these actions.

Furthermore, each individual maternity unit, hospital and hospital group should act to address any outstanding opportunities for improvement identified within their individual maternity unit or hospital report.

Appendices

Appendix A - HIQA's monitoring programme methodology

This section outlines the methods used by HIQA to assess each maternity unit or hospital's compliance with specific *National Standards for Safer Better Maternity Services*, with a focus on how services detected and responded to obstetric emergencies. It refers to the inspection team, the external advisory group and the phases of this monitoring programme carried out during 2018 and 2019.

The inspection team

This monitoring programme for maternity services was carried out by members of HIQA's Healthcare Team, who are authorised to monitor compliance with standards, in line with section 8(1) of the Health Act 2007 (as amended).⁽²⁾ The inspection team used specific monitoring tools to gather information to inform this monitoring programme both prior to and during the on-site inspection.

External Advisory Group

This monitoring programme was informed by an External Advisory Group. Membership included clinicians, managers and people with expertise in the areas of midwifery, obstetrics and gynaecology, neonatology, surgery, perinatal epidemiology, anaesthesia, critical care, management and patient advocacy. The members of this group and the organisations represented are listed in Appendix B of this report.

HIQA would like to acknowledge and thank the members of the External Advisory Group for their input.

Other sources of relevant information

A review of academic literature and relevant reports and reviews was conducted at the outset of this monitoring programme to inform its development. In addition, previous reports and investigations into Irish maternity services and associated recommendations, as well as publicly available maternity data sets, were also used to inform the methodology for this monitoring programme.

Phases of this monitoring programme

This monitoring programme took place over three phases, as outlined here.

Phase one: Pre-inspection self-assessment

A guide to this monitoring programme was published by HIQA in 2018 for women, the general public and service providers. This guide is available on HIQA's website at www.hiqa.ie and was updated in 2019.

On 30 May 2018, all 19 maternity units and maternity hospitals were asked to complete a comprehensive self-assessment questionnaire which had been developed by HIQA. A copy of this questionnaire has been published in HIQA's guide to this monitoring programme.

HIQA asked maternity units and hospitals to complete the self-assessment in order to gather provisional information before the start of on-site inspections on the scope and structure of maternity services and on local management arrangements.

The self-assessment questionnaire consisted of three sections:

- **Section 1** focused on leadership, governance and management arrangements within the maternity unit or hospital.
- **Section 2** focused on the systems in place to identify women at risk of complications and how maternity units detected and responded to obstetric emergencies.
- **Section 3** focused on workforce arrangements for maternity units and hospitals.

At this time, hospitals were also asked to submit key documents and data to HIQA in June 2018. The purpose of this pre-inspection information request was to provide the inspection team with baseline information about the quality and safety of the hospital's maternity service.

Before inspections took place, inspectors reviewed the submitted self-assessments and related documents, previous HIQA inspection reports, relevant unsolicited information received by HIQA about services, and reports of external reviews and/ or investigations in relation to some maternity services.

[Phase two: unannounced inspections by HIQA](#)

The second part of the programme consisted of two-day unannounced on-site inspections across the 19 maternity services. Inspections commenced in August 2018 using observation and interview tools developed by inspectors. These inspections were also used to validate some of the self-assessment responses submitted by the services.

Inspectors followed the pathway of care for pregnant and postnatal women who received unscheduled care. This was to check whether the services had the necessary structures and arrangements in place to detect and respond to obstetric emergencies and to facilitate the care of women and their newborn babies in the most appropriate clinical care setting.

Members of the inspection team visited a range of clinical areas, including maternity assessment areas (including emergency departments), maternity wards, operating

theatres, intensive care units (ICUs) and special care baby units or neonatal intensive care units.

Inspectors also interviewed members of each maternity unit's and or hospital's executive management team, clinical speciality leads in obstetrics, anaesthesiology, neonatology and or paediatrics. Inspectors also met with non-consultant hospital doctors at registrar level, midwives and nurses, and other relevant staff.

Inspectors also requested additional documentation during and following the on-site inspections, which included hospital policies and procedures, hospital management data and staff training records.

Details of high-level findings from the inspection were communicated by the inspection team to hospital management at the end of the inspections. In addition, any specific risks identified by the inspection team were communicated to senior management and each hospital's master, chief executive officer or general manager at this meeting or shortly after the inspection following a review of all the evidence gathered.

Where risks were identified, the hospital was notified in writing and formally requested to provide HIQA with an action plan detailing how it was planning to mitigate and manage these risks. Where appropriate, HIQA also notified senior management in the Health Service Executive (HSE), about these identified risks after the inspection.

HIQA's inspection reports

In addition to high-level findings given to services at the end of each inspection, a draft inspection report detailing the findings from the inspection was issued to each maternity service to provide an opportunity to give feedback and to comment on matters of factual accuracy.

Draft inspection reports outlined HIQA's findings in relation to areas where the hospital was found by HIQA to be compliant with the national standards monitored, and reasons for judgments where the hospital was substantially compliant, partially compliant or non-compliant with the national standards. Four categories were used to describe each maternity service's level of compliance with the relevant national standards at the time of this monitoring programme. The four compliance categories used were:

- **Compliant:** a judgment of compliant means that on the basis of the inspection, the maternity service is in compliance with the relevant national standard.
- **Substantially compliant:** a judgment of substantially compliant means that the maternity service met most of the requirements of the relevant national standard, but some action is required to be fully compliant.

- **Partially compliant:** a judgment of partially compliant means that the maternity service met some of the requirements of the relevant national standard while other requirements were not met. These deficiencies, while, at the time, were not presenting significant risks, may present moderate risks which could lead to significant risks for patients over time if not addressed.
- **Non-compliant:** a judgment of non-compliant means that the inspection of the maternity service has identified one or more findings which indicate that the relevant national standard has not been met, and that this deficiency is such that it represents a significant risk to patients.

Each hospital's report includes tables which outline HIQA's findings in relation to the hospital's compliance with the specific national standards monitored. The reports also comment on any risks identified during the monitoring process and the service's response to such risks.

HIQA identified that two maternity units performed poorly with respect to compliance with some of the 21 national standards assessed. A number of specific risks relating to leadership, governance and management and workforce needed to be addressed in both maternity units. HIQA escalated concerns identified in these maternity units to the national HSE to ensure that these identified risks would be addressed.

Due to the level of identified non-compliance and the nature and level of risk involved, HIQA determined that a follow-up inspection was necessary in both maternity units. A follow-up inspection was conducted in each maternity unit to determine the progress made by hospital management in addressing the risks identified during the first inspection. These inspections focused on assessing compliance with the national standards that the hospital was found to be substantially, partially or non-compliant with during the first inspection. Therefore, the national standards found to be compliant with, were not reviewed during the follow-up inspection. The findings of the follow-up inspections are included within each individual inspection report, alongside the findings of the first inspections.

All inspection reports were produced in line with HIQA's approach to seeking and reviewing feedback on draft inspection reports from services, as set out in the guide to this monitoring programme and available on HIQA's website at www.hiqa.ie.

Phase three: Overview report

Phase three of this monitoring programme comprised the publication of this national overview report – at the same time as the publication of the 19 inspection reports – detailing HIQA's analysis of inspection findings against the national standards, with a focus on how maternity services detected and responded to obstetric emergencies.

Appendix B - Membership of the Special Purpose Maternity Advisory Group

Member name	Nominating organisation
Mary Brosnan ^{§§§§§§§§§§§§}	Irish Association of Directors of Nursing and Midwifery
Dr Gerry Burke	Royal College of Physicians of Ireland. Institute of Obstetricians and Gynaecologists
Professor Rory Farrelly ^{*****}	Chief Directors of Nursing and Midwifery Forum
Mr Martin Feeley	Royal College of Surgeons in Ireland
Professor Richard Greene	National Perinatal Epidemiology Centre (NPEC)
Dr Niamh Hayes	HSE National Clinical Care Programme for Anaesthesia
Dr Peter Mc Kenna	HSE National Women and Infants Health Programme
Professor John Murphy	HSE National Clinical Programme for Paediatrics and Neonatology
Deirdre Walsh ^{††††††††††††}	State Claims Agency
Roisin O' Leary	Patient Focus
Dr Michael Power	HSE Critical Care Programme
Anne Slattery	HSE Acute Services

^{§§§§§§§§§§§§} Martina Cronin deputised for Mary Brosnan at one meeting

^{*****} Margaret Philbin deputised for Rory Farrelly at one meeting

^{††††††††††††} Dr Cathal O'Keeffe deputised for Deirdre Walsh at two meetings

Appendix B - Membership of the Special Purpose Maternity Advisory Group continued

Member name	Nominating organisation
Dr Mary Short	Irish College of General Practitioners
Dr Jeremy Smith	HSE National Clinical Care Programme for Anaesthesia
Professor Michael Turner	HSE National Clinical Programme for Obstetrics and Gynaecology
Nora Vallejo	Chief Directors of Nursing and Midwifery Forum – Delivery Suite Clinical Midwife Manager representative
Sean Egan	HIQA, Head of Healthcare Regulation (Chairperson)
Joan Heffernan	HIQA, Regional Manager (Programme Lead)
Siobhan Bourke	HIQA, Healthcare Inspector
Aileen O'Brien	HIQA, Healthcare Inspector
Dolores Dempsey Ryan	HIQA, Healthcare Inspector
Denise Lawler	HIQA, Healthcare Inspector

Appendix C - Level of compliance across the 19 maternity units and hospitals

Hospital group	Maternity units and hospitals
Ireland East Hospital Group	The National Maternity Hospital Wexford General Hospital Regional Hospital Mullingar St Luke's General Hospital, Kilkenny
RCSI Hospitals Group	Cavan & Monaghan Hospital Our Lady of Lourdes Hospital, Drogheda Rotunda Hospital, Dublin
Dublin Midlands Hospital Group	Midland Regional Hospital Portlaoise Coombe Women & Infants University Hospital
Saolta University Health Care Group	Mayo University Hospital Sligo University Hospital Letterkenny University Hospital Portiuncula University Hospital University Hospital Galway
South/South West Hospital Group	South Tipperary General Hospital Cork University Maternity Hospital University Hospital Waterford University Hospital Kerry
University Limerick Hospitals Group	University Maternity Hospital Limerick

Ireland East Hospital Group Levels of Compliance*****

■ Compliant
 ■ Substantially Compliant
 ■ Partially Compliant
 ■ Non-compliant

Standard No.	Standard	National Maternity Hospital	Wexford General Hospital	Regional Hospital Mullingar	St Luke's General Hospital Kilkenny	St Luke's General Hospital Kilkenny follow-up inspection
Standard 2.1	Maternity care reflects best available evidence of what is known to achieve safe, high-quality outcomes for women and their babies.					
Standard 2.2	Maternity care is planned and delivered to meet the initial and ongoing assessed needs of women and their babies, while working to meet the needs of all women and babies using the service.					
Standard 2.3	Women and their babies receive integrated care which is coordinated effectively within and between maternity and other services.					
Standard 2.4	An identified lead healthcare professional has overall clinical responsibility for the care of each woman and that of her baby.					
Standard 2.5	All information necessary to support the provision of effective care, including information provided by the woman, is available at the point of clinical decision-making.					
Standard 2.7	Maternity care is provided in a physical environment which supports the delivery of safe, high-quality care and protects the health and wellbeing of women and their babies.					
Standard 2.8	The safety and quality of maternity care is systematically monitored, evaluated and continuously improved.					
Standard 3.2	Maternity service providers protect women and their babies from the risk of avoidable harm through the appropriate design and delivery of maternity services.					
Standard 3.3	Maternity service providers monitor and learn from information relevant to providing safe services and actively promote learning, both locally and nationally.					
Standard 3.4	Maternity service providers implement, review and publicly report on a structured quality improvement programme.					
Standard 3.5	Maternity service providers effectively identify, manage, respond to and report on patient safety incidents.					
Standard 5.1	Maternity service providers have clear accountability arrangements to achieve the delivery of safe, high-quality maternity care.					
Standard 5.2	Maternity service providers have formalized governance arrangements for assuring the delivery of safe, high-quality maternity care.					
Standard 5.3	Maternity service providers maintain a publicly available statement of purpose that accurately describes the services provided to women and their babies; including how and where they are provided.					
Standard 5.4	Maternity service providers set clear objectives and have a clear plan for delivering safe, high-quality maternity services.					
Standard 5.5	Maternity service providers have effective management arrangements to support and promote the delivery of safe, high-quality maternity services.					
Standard 5.8	Maternity service providers systematically monitor, identify and act on opportunities to improve the safety and quality of their maternity services.					
Standard 5.11	Maternity service providers act on standards and alerts, and take into account recommendations and guidance issued by relevant regulatory bodies.					
Standard 6.1	Maternity service providers plan, organize and manage their workforce to achieve the service objectives for safe, high-quality maternity care.					
Standard 6.3	Maternity service providers ensure their workforce has the competencies and training required to deliver safe, high-quality maternity care.					
Standard 6.4	Maternity service providers support their workforce in delivering safe, high-quality maternity care.					

***** This table includes compliance against national standards for the follow-up inspection in St Luke's General Hospital, Kilkenny.

RCSI Hospitals Group Levels of Compliance

■ Compliant
 ■ Substantially Compliant
 ■ Partially Compliant
 ■ Non-compliant

Standard No.	Standard	Cavan & Monaghan Hospital	Our Lady of Lourdes Hospital Drogheda	Rotunda Hospital Dublin
Standard 2.1	Maternity care reflects best available evidence of what is known to achieve safe, high-quality outcomes for women and their babies.			
Standard 2.2	Maternity care is planned and delivered to meet the initial and ongoing assessed needs of women and their babies, while working to meet the needs of all women and babies using the service.			
Standard 2.3	Women and their babies receive integrated care which is coordinated effectively within and between maternity and other services.			
Standard 2.4	An identified lead healthcare professional has overall clinical responsibility for the care of each woman and that of her baby.			
Standard 2.5	All information necessary to support the provision of effective care, including information provided by the woman, is available at the point of clinical decision-making.			
Standard 2.7	Maternity care is provided in a physical environment which supports the delivery of safe, high-quality care and protects the health and wellbeing of women and their babies.			
Standard 2.8	The safety and quality of maternity care is systematically monitored, evaluated and continuously improved.			
Standard 3.2	Maternity service providers protect women and their babies from the risk of avoidable harm through the appropriate design and delivery of maternity services.			
Standard 3.3	Maternity service providers monitor and learn from information relevant to providing safe services and actively promote learning, both locally and nationally.			
Standard 3.4	Maternity service providers implement, review and publicly report on a structured quality improvement programme.			
Standard 3.5	Maternity service providers effectively identify, manage, respond to and report on patient safety incidents.			
Standard 5.1	Maternity service providers have clear accountability arrangements to achieve the delivery of safe, high-quality maternity care.			
Standard 5.2	Maternity service providers have formalized governance arrangements for assuring the delivery of safe, high-quality maternity care.			
Standard 5.3	Maternity service providers maintain a publicly available statement of purpose that accurately describes the services provided to women and their babies; including how and where they are provided.			
Standard 5.4	Maternity service providers set clear objectives and have a clear plan for delivering safe, high-quality maternity services.			
Standard 5.5	Maternity service providers have effective management arrangements to support and promote the delivery of safe, high-quality maternity services.			
Standard 5.8	Maternity service providers systematically monitor, identify and act on opportunities to improve the safety and quality of their maternity services.			
Standard 5.11	Maternity service providers act on standards and alerts, and take into account recommendations and guidance issued by relevant regulatory bodies.			
Standard 6.1	Maternity service providers plan, organize and manage their workforce to achieve the service objectives for safe, high-quality maternity care.			
Standard 6.3	Maternity service providers ensure their workforce has the competencies and training required to deliver safe, high-quality maternity care.			
Standard 6.4	Maternity service providers support their workforce in delivering safe, high-quality maternity care.			

Dublin Midlands Hospital Group Levels of Compliance

■ Compliant
 ■ Substantially Compliant
 ■ Partially Compliant
 ■ Non-compliant

Standard No.	Standard	Midland Regional Hospital Portlaoise	Coombe Women & Infants University Hospital
Standard 2.1	Maternity care reflects best available evidence of what is known to achieve safe, high-quality outcomes for women and their babies.		
Standard 2.2	Maternity care is planned and delivered to meet the initial and ongoing assessed needs of women and their babies, while working to meet the needs of all women and babies using the service.		
Standard 2.3	Women and their babies receive integrated care which is coordinated effectively within and between maternity and other services.		
Standard 2.4	An identified lead healthcare professional has overall clinical responsibility for the care of each woman and that of her baby.		
Standard 2.5	All information necessary to support the provision of effective care, including information provided by the woman, is available at the point of clinical decision-making.		
Standard 2.7	Maternity care is provided in a physical environment which supports the delivery of safe, high-quality care and protects the health and wellbeing of women and their babies.		
Standard 2.8	The safety and quality of maternity care is systematically monitored, evaluated and continuously improved.		
Standard 3.2	Maternity service providers protect women and their babies from the risk of avoidable harm through the appropriate design and delivery of maternity services.		
Standard 3.3	Maternity service providers monitor and learn from information relevant to providing safe services and actively promote learning, both locally and nationally.		
Standard 3.4	Maternity service providers implement, review and publicly report on a structured quality improvement programme.		
Standard 3.5	Maternity service providers effectively identify, manage, respond to and report on patient safety incidents.		
Standard 5.1	Maternity service providers have clear accountability arrangements to achieve the delivery of safe, high-quality maternity care.		
Standard 5.2	Maternity service providers have formalized governance arrangements for assuring the delivery of safe, high-quality maternity care.		
Standard 5.3	Maternity service providers maintain a publicly available statement of purpose that accurately describes the services provided to women and their babies; including how and where they are provided.		
Standard 5.4	Maternity service providers set clear objectives and have a clear plan for delivering safe, high-quality maternity services.		
Standard 5.5	Maternity service providers have effective management arrangements to support and promote the delivery of safe, high-quality maternity services.		
Standard 5.8	Maternity service providers systematically monitor, identify and act on opportunities to improve the safety and quality of their maternity services.		
Standard 5.11	Maternity service providers act on standards and alerts, and take into account recommendations and guidance issued by relevant regulatory bodies.		
Standard 6.1	Maternity service providers plan, organize and manage their workforce to achieve the service objectives for safe, high-quality maternity care.		
Standard 6.3	Maternity service providers ensure their workforce has the competencies and training required to deliver safe, high-quality maternity care.		
Standard 6.4	Maternity service providers support their workforce in delivering safe, high-quality maternity care.		

Saolta University Health Care Group Levels of Compliance

■ Compliant
 ■ Substantially Compliant
 ■ Partially Compliant
 ■ Non-compliant

Standard No.	Standard	Mayo University Hospital	Sligo University Hospital	Letterkenny University Hospital	Portiuncula University Hospital	University Hospital Galway
Standard 2.1	Maternity care reflects best available evidence of what is known to achieve safe, high-quality outcomes for women and their babies.					
Standard 2.2	Maternity care is planned and delivered to meet the initial and ongoing assessed needs of women and their babies, while working to meet the needs of all women and babies using the service.					
Standard 2.3	Women and their babies receive integrated care which is coordinated effectively within and between maternity and other services.					
Standard 2.4	An identified lead healthcare professional has overall clinical responsibility for the care of each woman and that of her baby.					
Standard 2.5	All information necessary to support the provision of effective care, including information provided by the woman, is available at the point of clinical decision-making.					
Standard 2.7	Maternity care is provided in a physical environment which supports the delivery of safe, high-quality care and protects the health and wellbeing of women and their babies.					
Standard 2.8	The safety and quality of maternity care is systematically monitored, evaluated and continuously improved.					
Standard 3.2	Maternity service providers protect women and their babies from the risk of avoidable harm through the appropriate design and delivery of maternity services.					
Standard 3.3	Maternity service providers monitor and learn from information relevant to providing safe services and actively promote learning, both locally and nationally.					
Standard 3.4	Maternity service providers implement, review and publicly report on a structured quality improvement programme.					
Standard 3.5	Maternity service providers effectively identify, manage, respond to and report on patient safety incidents.					
Standard 5.1	Maternity service providers have clear accountability arrangements to achieve the delivery of safe, high-quality maternity care.					
Standard 5.2	Maternity service providers have formalized governance arrangements for assuring the delivery of safe, high-quality maternity care.					
Standard 5.3	Maternity service providers maintain a publicly available statement of purpose that accurately describes the services provided to women and their babies; including how and where they are provided.					
Standard 5.4	Maternity service providers set clear objectives and have a clear plan for delivering safe, high-quality maternity services.					
Standard 5.5	Maternity service providers have effective management arrangements to support and promote the delivery of safe, high-quality maternity services.					
Standard 5.8	Maternity service providers systematically monitor, identify and act on opportunities to improve the safety and quality of their maternity services.					
Standard 5.11	Maternity service providers act on standards and alerts, and take into account recommendations and guidance issued by relevant regulatory bodies.					
Standard 6.1	Maternity service providers plan, organize and manage their workforce to achieve the service objectives for safe, high-quality maternity care.					
Standard 6.3	Maternity service providers ensure their workforce has the competencies and training required to deliver safe, high-quality maternity care.					
Standard 6.4	Maternity service providers support their workforce in delivering safe, high-quality maternity care.					

University Limerick Hospitals Group Levels of Compliance

■ Compliant
 ■ Substantially Compliant
 ■ Partially Compliant
 ■ Non-compliant

Standard No.	Standard	University Maternity Hospital Limerick
Standard 2.1	Maternity care reflects best available evidence of what is known to achieve safe, high-quality outcomes for women and their babies.	
Standard 2.2	Maternity care is planned and delivered to meet the initial and ongoing assessed needs of women and their babies, while working to meet the needs of all women and babies using the service.	
Standard 2.3	Women and their babies receive integrated care which is coordinated effectively within and between maternity and other services.	
Standard 2.4	An identified lead healthcare professional has overall clinical responsibility for the care of each woman and that of her baby.	
Standard 2.5	All information necessary to support the provision of effective care, including information provided by the woman, is available at the point of clinical decision-making.	
Standard 2.7	Maternity care is provided in a physical environment which supports the delivery of safe, high-quality care and protects the health and wellbeing of women and their babies.	
Standard 2.8	The safety and quality of maternity care is systematically monitored, evaluated and continuously improved.	
Standard 3.2	Maternity service providers protect women and their babies from the risk of avoidable harm through the appropriate design and delivery of maternity services.	
Standard 3.3	Maternity service providers monitor and learn from information relevant to providing safe services and actively promote learning, both locally and nationally.	
Standard 3.4	Maternity service providers implement, review and publicly report on a structured quality improvement programme.	
Standard 3.5	Maternity service providers effectively identify, manage, respond to and report on patient safety incidents.	
Standard 5.1	Maternity service providers have clear accountability arrangements to achieve the delivery of safe, high-quality maternity care.	
Standard 5.2	Maternity service providers have formalized governance arrangements for assuring the delivery of safe, high-quality maternity care.	
Standard 5.3	Maternity service providers maintain a publicly available statement of purpose that accurately describes the services provided to women and their babies; including how and where they are provided.	
Standard 5.4	Maternity service providers set clear objectives and have a clear plan for delivering safe, high-quality maternity services.	
Standard 5.5	Maternity service providers have effective management arrangements to support and promote the delivery of safe, high-quality maternity services.	
Standard 5.8	Maternity service providers systematically monitor, identify and act on opportunities to improve the safety and quality of their maternity services.	
Standard 5.11	Maternity service providers act on standards and alerts, and take into account recommendations and guidance issued by relevant regulatory bodies.	
Standard 6.1	Maternity service providers plan, organize and manage their workforce to achieve the service objectives for safe, high-quality maternity care.	
Standard 6.3	Maternity service providers ensure their workforce has the competencies and training required to deliver safe, high-quality maternity care.	
Standard 6.4	Maternity service providers support their workforce in delivering safe, high-quality maternity care.	

Appendix D — Hospitals approved by relevant colleges to provide higher specialist medical training,* during the time frame of HIQA's monitoring programme

Maternity service	Higher specialist training in obstetrics and gynaecology	Higher specialist training in anaesthetics	Higher specialist training in paediatrics/ neonatology
Rotunda Hospital Dublin	✓	✓	✓
Coombe Women & Infants University Hospital Dublin	✓	✓	✓
The National Maternity Hospital Dublin	✓	✓	✓
Cork University Maternity Hospital	✓	✓	✓
University Maternity Hospital Limerick	✓	✓	✓
Our Lady of Lourdes Hospital Drogheda	✓	✓	✓
University Hospital Galway	✓	✓	✓
Regional Hospital Mullingar	✓	✓	✓
University Hospital Waterford	✓	✓	✓
Letterkenny University Hospital	x	✓	x
Wexford General Hospital	✓	✓	✓
Cavan & Monaghan Hospital	x	x	✓
Portiuncula University Hospital	✓	x	✓
St. Luke's General Hospital Kilkenny	x	x	x
Mayo University Hospital	✓	✓	✓
Midland Regional Hospital Portlaoise	✓	x	x
Sligo University Hospital	x	✓	✓
University Hospital Kerry	x	x	x
South Tipperary General Hospital	x	x	x

*Hospitals providing higher specialist training for each of these specialities therefore had at least one specialist registrar position allocated to them. This grade of NCHD represents the highest grade of non-consultant doctor in training.

Glossary of terms and abbreviations

Accountability: being answerable to another person or organisation for decisions, behaviour and any consequences.

Adverse event: an incident which resulted in harm.

Alongside birth centre: an alongside birth centre is a birth centre situated in the immediate vicinity of a specialised birth centre. See also 'Specialised birth centre' below.

Anaesthetic pre-assessment clinic: a pre-assessment anaesthetic clinic is a service whereby women with risk factors for anaesthesia or women who might have difficulties are reviewed by an anaesthesiologist and a plan of care is developed that is appropriate for the women.

Anaesthesiologist: a medical specialist who administers an anaesthetic to a patient before a medical procedure or surgery.

Antenatal care: care provided to a pregnant woman during her pregnancy.

Antenatal anomaly screening: this includes first trimester screening and detailed fetal assessment ultrasound from 20 – 22 weeks' gestation.

Benchmarking: a continuous process of measuring and comparing care and services with similar service providers.

Best available evidence: the consistent and systematic identification, analysis and selection of data and information to evaluate options and make decisions in relation to a specific question.

Birthrate Plus®: Birthrate Plus® is based upon the standard of one-to-one care from a midwife for a woman during labour and birth, together with the care of the newborn. A classification system was developed which used clinical indicators to place women and newborn in one of five outcome categories changing the acuity and therefore the numbers of midwives required.

Caesarean section: a surgical procedure used to deliver a baby through incisions created in the mother's abdomen and uterus.

Cardiotocography: an electronic means of recording the fetal heart beat and the uterine contractions during pregnancy. A cardiotocograph machine produces a trace known as a cardiotocograph which illustrates the fetal heart rate and uterine activity.

Care bundle: a number of related evidence-based interventions, which when followed consistently for every woman or newborn each time care is delivered, result in improved outcomes for women and newborns.

Care pathway: a multidisciplinary care plan that outlines the main clinical interventions undertaken by different healthcare professionals when providing care for women or newborns with a specific condition or set of symptoms.

Clinical audit: a quality improvement process that seeks to improve care and outcomes through systematic review of care against explicit criteria and the implementation of change.

Clinical governance: a system through which service providers are accountable for continuously improving the quality of their clinical practice and safeguarding high standards of care by creating an environment in which excellence in clinical care will flourish. This includes mechanisms for monitoring clinical quality and safety through structured programmes; for example, clinical audit.

Clinical guidelines: systematically developed statements to assist healthcare professionals' and patients' decisions about appropriate healthcare for specific circumstances.

Clinical handover: the transfer of professional responsibility and accountability for some or all aspects of care for a woman and newborn to another person or professional group on a temporary or permanent basis.

Clinical incident review: a structured analysis conducted using best practice methods, to determine what happened, how it happened, why it happened, and whether there are learning points for the service, wider organisation, or nationally.

Clinical Indemnity Scheme: The Clinical Indemnity Scheme (CIS) was established in 2002 to rationalise medical indemnity arrangements by transferring to the State, via the HSE, hospitals and other health agencies, responsibility for managing clinical negligence claims and associated risks.

Clinical midwife manager (CMM): this refers to midwives who undertake midwife management posts with responsibility for professional leadership, staffing and staff development, resource management and facilitating communication. There are three grades of first-line midwife management: CMM1, CMM2 and CMM3.

Competence: the knowledge, skills, abilities, behaviours and expertise sufficient to be able to perform a particular task and activity.

Complaint: an expression of dissatisfaction with any aspect of service provision.

Consultant: a hospital consultant is a registered medical practitioner in hospital practice who, by reason of his or her training, skill and experience in a designated specialty, is consulted by other registered medical practitioners and undertakes full clinical responsibility for patients in his or her care, or that aspect of care on which he or she has been consulted, without supervision in professional matters by any

other person. Consultants include obstetricians, anaesthesiologists, paediatricians and neonatologists.

Core hours: core working hours refer to the hours when a department or area is fully functional and historically was classified as the working hours of 9am to 5pm, Monday to Friday.

Corporate governance: the systems by which services direct and control their functions in order to achieve organisational objectives, manage their business processes, meet required standards of accountability, integrity and propriety, and relate to external stakeholders.

Critical care services: services for the provision of medical care for a critically ill or critically injured patient.

Culture: the shared attitudes, beliefs and values that define a group or groups of people and shape and influence perceptions and behaviours.

DOMINO (Domiciliary Care In and Out of Hospital) scheme: this scheme enables women who are deemed at 'low risk of complications' to see members of a dedicated midwives' team for their antenatal visits and to have a member of this team deliver their baby, either in hospital (DOMINO scheme) or at home.

Effective: a measure of the extent to which a specific intervention, procedure, treatment, or service, when delivered, does what it is intended to do for a specified population.

Emergency care: the branch of medicine that deals with evaluation and initial treatment of medical conditions caused by trauma or sudden illness.

Emergency response system: a generic name given to the emergency assistance provided as a response when a woman's or a newborn's condition deteriorates in acute hospitals. The emergency response system should form part of an organisation's escalation protocol.

Endocrinologist: a medical specialist in the branch of medicine concerned with the study of hormones, their receptors, the intracellular signalling pathways they invoke, and the diseases and conditions associated with them.

Evaluation: a formal process to determine the extent to which the planned or desired outcomes of an intervention are achieved.

Evidence: data and information used to make decisions. Evidence can be derived from research, experiential learning, indicator data and evaluations.

Family: those closest to the woman in knowledge, care and affection and who are connected through their common biological, legal, cultural, and emotional history.

Features: in the context of this report, features, when taken together, will enable progress towards achieving a national standard. For example, features of the *National Standards for Safer Better Maternity Services*.

Governance: in healthcare, an integration of corporate and clinical governance; the systems, processes and behaviours by which services lead, direct and control their functions in order to achieve their objectives, including the quality and safety of services for women and newborns. See also 'Clinical governance' and 'Corporate governance' above.

GP: general practitioner. A doctor who has completed a recognised training programme in general practice and provides personal and continuing care to individuals and to families in the community.

Gynaecology: the branch of medicine particularly concerned with the health of the female organs of reproduction and diseases thereof.

Healthcare professional: a person who exercises skill or judgment in diagnosing, treating or caring for service users, preserving or improving the health of service users.

Healthcare record: all information in both paper and electronic formats relating to the care of a service user.

High dependency unit (HDU): a unit in a hospital that offers specialist nursing and or midwifery care and monitoring to ill patients. It provides greater care than is available on general wards but less than is given to patients in intensive care.

HIQA: the Health Information and Quality Authority (HIQA) is an independent authority established to drive high-quality and safe care for people using our health and social care services in Ireland.

HSE: the Health Service Executive.

Integrated care: healthcare services working together, both internally and externally to ensure service users receive co-ordinated care.

Intensive care unit (ICU): a unit in a hospital providing complex support for multi-organ failure and or advanced respiratory support.

Irish Maternity Early Warning System (I-MEWS): a system for the early detection of illness during pregnancy and after a woman has had a baby.

Key performance indicator (KPI): specific and measurable elements of practice that can be used to assess quality and safety of care.

Level-1 neonatal unit: Level-1 neonatal units provide routine neonatal care to term infants (infants born to mothers who go the full nine months of their pregnancies), and special care to infants over 32 weeks' gestation.

Level-2 neonatal unit: Level-2 neonatal units provide routine care to term infants, special care, high-dependency care and short-term ventilation to infants greater than 27 weeks' gestation

Level-3 neonatal unit: Level 3 neonatal units provide the full spectrum of specialist neonatal care to term and pre-term infants who are critically unwell.

Locum: a healthcare professional, with the required competencies, who is employed to temporarily cover the duties of another healthcare professional who is on leave.

Master of a maternity hospital: master is a term from the 19th Century when the Rotunda, the Coombe Women & Infants and National Maternity hospitals in Dublin were each granted the power to appoint a lead doctor to take control of all aspects of the hospitals' clinical and administrative areas.

Maternal – fetal medicine: is a branch of medicine that focuses on managing health concerns of the woman and fetus (unborn baby) prior to, during, and shortly after pregnancy.

Maternity and Infant Care Scheme: every woman who is pregnant and ordinarily resident in Ireland is entitled to an agreed programme of maternity care under the Maternity and Infant Scheme. 'Ordinarily resident' means you are living here, or you intend to remain living here, for at least one year.

Maternity care: care for women from when they first look for care before and during pregnancy through to labour and birth, and includes the care of the woman and her baby after birth.

Maternity dashboard: a tool that can be employed to monitor the implementation of principles of clinical governance 'on the ground'. It can be used to benchmark activity and monitor performance against standards agreed locally for the maternity unit or hospital on a monthly basis.

Maternity network: the system whereby maternity units and hospitals are interconnected within hospital groups and meet the criteria for a maternity network as defined in the National Maternity Strategy.

Maternity Patient Safety Statement: this contains information on 17 metrics covering a range of clinical activities, major obstetric events, modes of delivery and clinical incidents. It is published monthly and forms part of clinical governance arrangements.

Maternity service: any location where maternity care is provided to women and their babies from pre-pregnancy up to six weeks post-birth. This includes care of the neonate up to six weeks after birth.

Maternity service provider: any person, organisation or part of an organisation providing maternity services.

Maternity unit and maternity hospital: this term includes both maternity units and hospitals that provide maternity care to women and their babies either in a maternity unit situated in a general hospital or in a stand-alone maternity hospital. Alongside birth centres and specialised birth centres are situated within maternity units and maternity hospitals.

Midwife: a person who has successfully completed a midwifery education programme that is duly recognised in the country where it is located; who has acquired the requisite qualifications to be registered and or legally licensed to practice midwifery and use the title 'midwife'; and who demonstrates competency in the practice of midwifery.

Methodology: a system of methods, rules and procedures used for the delivery of a project.

Microbiologist: a specialist in microbiology (the branch of biology that deals with micro-organisms and their effects on other living organisms).

Morbidity rate: refers to the incidence or the prevalence of a disease or medical condition in a given population.

Mortality rate: refers to the measure of the number of deaths in a given population.

Multidisciplinary: an approach to the planning of treatment and the delivery of care for a service user by a team of healthcare professionals who work together to provide integrated care.

National Clinical Effectiveness Committee (NCEC): the National Clinical Effectiveness Committee is a Ministerial committee established as part of the Patient Safety First initiative. Its role is to prioritise and quality assure national clinical guidelines and national clinical audit, so as to recommend them to the Minister of Health to become part of a suite of national clinical guidelines and national clinical audit. the national clinical guidelines are quality assured by the NCEC and endorsed by the Minister for Health for implementation in the Irish health system.

National Incident Management System (NIMS): The National Incident Management System is the single designated system for reporting of all incidents in the public healthcare system

National Maternal and Newborn Clinical Management System: is an electronic health record for all women and babies in maternity services in Ireland. This record allows information to be shared with relevant providers of care as and when required

National Neonatal Transport Programme: is a retrieval service for the stabilisation and transportation of premature and sick neonates up to the age of six weeks corrected gestational age, who require transfer for specialist care within Ireland and abroad. The service operates 24 hours a day seven days a week.

Neonatologist: a doctor who has specialised in neonatology.

Neonatology: a sub-speciality of paediatrics which relates to the medical care of newborn babies.

Non-consultant hospital doctor (NCHD): doctors that have not yet reached hospital consultant grade. Non-consultant hospital doctors include specialist registrars, registrars, senior house officers and interns.

Obstetrician: a doctor who has specialised in the area of obstetrics.

Obstetric emergencies: For the purposes of this monitoring programme, obstetric emergencies are defined as pregnancy-related conditions that can present an immediate threat to the wellbeing of the mother and baby in pregnancy or around birth.

Obstetrics: the branch of medicine concerned with pregnancy and childbirth.

On-call: the provision or availability of clinical advice in addition to or outside of core working hours.

Out of hours: outside the core working hours of 9am to 5pm, Monday to Friday.

Paediatrician: a doctor who has specialised in paediatrics.

Paediatrics: the branch of medicine concerned with the treatment of infants and children.

Patient safety incident or event: an event or circumstance which could have resulted, or did result, in unnecessary harm to a patient. Patient safety incidents include an incident which reached the patient and caused harm (adverse event); an incident which did not reach the patient (near miss); and an incident which reached the patient, but resulted in no discernible harm to the patient (no harm event).

Perineal tear: is a laceration of the skin and other soft tissue structures of the perineum which, in women, separate the vagina from the anus. Perineal tears mainly occur in women as a result of vaginal childbirth, which strains the perineum. Obstetric anal sphincter injuries are also known as third and fourth degree perineal

tears. These are tears that involve the muscle (the anal sphincter) that controls the anus are known as a third degree tear. If the tear extends into the lining of the anus or rectum, it is known as a fourth degree tear.

Placenta praevia: is a condition where the placenta lies low in the uterus and partially or completely covers the cervix. The placenta may separate from the uterine wall as the cervix begins to dilate (open) during labour.

Placenta accreta: is a serious pregnancy condition that occurs when the placenta grows too deeply into the uterine wall. Typically, the placenta detaches from the uterine wall after birth. With placenta accreta, part or all of the placenta remains attached. This can cause severe blood loss after birth.

Policies, procedures, protocols and guidelines (PPPGs): a set of statements or commitments to pursue courses of action aimed at achieving defined goals.

Policy: a written operational statement of intent which helps staff make appropriate decisions and take actions, consistent with the aims of the service provider, and in the best interests of service users.

Postnatal care: care delivered during the period from delivery to the first six weeks after birth.

Pre-eclampsia: is a medical condition where high blood pressure and protein in the urine develop during pregnancy. If left untreated, it may result in seizures at which point it is known as eclampsia.

Quality assurance: the systematic process of checking to see whether a product or service is consistently meeting a desired level of quality.

Risk: in healthcare, the likelihood of an adverse event or outcome.

Risk management: the systematic identification, evaluation and management of risk. It is a continuous process with the aim of reducing risk to an organisation and individuals.

Risk register: a risk register is a risk management tool. It acts as a central repository for all risks identified by an organisation and, for each risk, includes information such as risk probability, impact, controls and risk owner.

Safety huddles or pauses: are brief (usually 15-20 minutes) and routine meetings for sharing information about potential or existing safety and operational problems.

Sepsis: is a potentially life-threatening condition caused by the body's response to an infection. The body normally releases chemicals into the bloodstream to fight an infection. Sepsis occurs when the body's response to these chemicals is out of balance, triggering changes that can damage multiple organ systems.

Serious Incident Management Team: a Serious Incident Management Team (SIMT) is an established standing group and includes senior staff who are responsible for overseeing the management of patient safety incidents and reporting into the relevant senior accountable officer at regular intervals to update on the progress of reviews.

Serious incident: an incident that results in death or serious harm.

Serious reportable events: serious reportable events are a defined subset of incidents which are either serious or that should not occur if the available preventative measures have been effectively implemented by healthcare providers. The HSE developed a list of serious reportable events in 2015 which are mandatorily reportable by services to the senior accountable officer of the service.

Service provider: any person, organisation, or part of an organisation delivering healthcare services [as described in the Health Act 2007 section 8(1)(b)(i)–(ii)] on behalf of the HSE.

Service: anywhere health or social care is provided. Examples include, but are not limited to, acute hospitals, community hospitals, district hospitals, health centres, dental clinics, general practitioner (GP) surgeries and homecare.

Service level agreement: a framework for the provision of services, including details of quality and governance requirements.

Severe maternal morbidity: a pregnant or recently-pregnant woman who experienced severe complications such as major obstetric haemorrhage, uterine rupture, peripartum hysterectomy, eclampsia, renal or liver dysfunction, pulmonary oedema, acute respiratory dysfunction, pulmonary embolism, cardiac arrest, coma, cerebrovascular event, status epilepticus, septicaemic shock, anaesthetic complications, admission to an intensive care or coronary care unit, interventional radiology or other severe morbidity.

Specialised birth centres: A specialised birth centre is a delivery suite in an Irish maternity unit or maternity hospital.

Staff: the people who work in a maternity service, including but not limited to healthcare professionals, maternity care assistants, laboratory staff, administrative staff, catering staff, cleaning staff, security staff and portering staff.

Standard: in the context of this report, a standard is a statement which describes the high-level outcome required to contribute to quality and safety.

Statement of purpose: a description of the aims and objectives of a service, including how resources are aligned to deliver these objectives. It also describes in detail the range, availability and scope of services provided by the overall service.

Surgical safety checklist: is a communication tool that is used by operating theatre nurses, surgeons, anaesthetists and others to discuss together important details about a surgical case so that everyone is familiar with the case and that important steps are not forgotten.

Systems analysis investigations: is a methodical investigation of an incident which involves collection of data from the literature, records (general records in the case of non-clinical incidents and healthcare records in the case of clinical incidents), individual interviews with those involved where the incident occurred and analysis of this data to establish the chronology of events that led up to the incident, identifying the key causal factors that the investigator(s) considered had an effect on the eventual adverse outcome, the contributory factors, and recommended control.

Tertiary care: specialised consultative healthcare, usually for inpatients and on referral from a primary or secondary health professional, in a facility that has personnel and facilities for advanced medical investigation and treatment, such as a tertiary level hospital.

Ultrasound: a procedure in which high-energy sound waves are bounced off internal tissues or organs and make echoes. The echo patterns are shown on the screen of an ultrasound machine, forming a picture of body tissues called a sonogram.

Whole-time equivalent (WTE): one whole-time equivalent employee is an employee who works the total number of hours possible for their grade. WTEs are not the same as staff numbers as many staff work reduced hours, for example, two midwives working 19.5 hours per week each would be one WTE as full-time hours for midwifery staff are 39 hours per week.

Workforce: the people who work in, for or with the service provider. This includes individuals that are employed, self-employed, temporary, volunteers, contracted or anyone who is responsible or accountable to the organisation when providing a service to the service user.

References

1. Health Information and Quality Authority. *National Standards for Safer Better Maternity Services*. Dublin: Health Information and Quality Authority. 2016. Available from: <https://www.hiqa.ie/sites/default/files/2017-02/national-standards-maternity-services.pdf>.
2. Health Act 2007. Dublin: The Stationary Office; 2007.
3. Department of Health. *Creating a Better Future Together National Maternity Strategy 2016-2026*. Dublin: Department of Health. 2016. Available from: <https://assets.gov.ie/18835/ac61fd2b66164349a1547110d4b0003f.pdf>.
4. Health Information and Quality Authority. *National Standards for Safer Better Healthcare*. Dublin: Health Information and Quality Authority. 2012. Available from: <https://www.hiqa.ie/sites/default/files/2017-01/Safer-Better-Healthcare-Standards.pdf>.
5. Health Information and Quality Authority. *Investigation into the safety, quality and standards of services provided by the Health Service Executive to patients, including pregnant women, at risk of clinical deterioration, including those provided in University Hospital Galway, and as reflected in the care and treatment provided to Savita Halappanavar*. Dublin: Health Information and Quality Authority. 2013. Available from: <https://www.hiqa.ie/sites/default/files/2017-01/Patient-Safety-Investigation-UHG.pdf>.
6. Health Information and Quality Authority. *Report of the investigation into the safety, quality and standards of services provided by the Health Service Executive to patients in the Midland Regional Hospital, Portlaoise*. Dublin: Health Information and Quality Authority. 2015. Available from: <https://www.hiqa.ie/sites/default/files/2017-01/Portlaoise-Investigation-Report.pdf>.
7. Health Service Executive. *External Independent Clinical Review of the Maternity Services at Portiuncula Hospital, Ballinasloe (PUH) and of 18 perinatal events which occurred between March 2008 and November 2014*. Galway: Health Service Executive. 2018. Available from: <https://saolta.ie/sites/default/files/publications/Clinical%20Review%20of%20Portiuncula%20Maternity%20services%202018.pdf>.
8. Kirkup B. *The Report of the Morecambe Bay Investigation*. United Kingdom: The Stationary Office. 2015. Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/408480/47487_MBI_Accessible_v0.1.pdf.
9. World Health Organization. *Managing Complications in Pregnancy and Childbirth: a guide for midwives and doctors*. Geneva: World Health Organization. 2017. Available from: <https://apps.who.int/iris/bitstream/handle/10665/255760/9789241565493-eng.pdf;jsessionid=5473F4C0C3F9FBCB673010C445ED5ECD?sequence=1>.
10. Ameh CA, Mdegela M, White S, Van den Broek N. The effectiveness of training in emergency obstetric care: a systematic literature review. *Health Policy and Planning*. 2019; 34(4): pp257-70. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6661541/>.
11. Monod C, Voekt CA, Gisin M, Gisin S, Hoesli IM. Optimization of competency in obstetrical emergencies: a role for simulation training. *Archives of Gynecology and Obstetrics*. 2014; 289(4): pp733-38. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/24346119>.

12. Houses of the Oireachtas. *Committee on the Future of Healthcare Sláintecare Report*. Dublin: Houses of the Oireachtas. 2017. Available from: https://data.oireachtas.ie/ie/oireachtas/committee/dail/32/committee_on_the_future_of_healthcare/reports/2017/2017-05-30_slaintecare-report_en.pdf.
13. Health Information and Quality Authority. *Guide to HIQA's monitoring programme against the National Standards for Safer Better Maternity Services, with a focus on obstetric emergencies*. Dublin: Health Information and Quality Authority. 2019. Available from: <https://www.hiqa.ie/sites/default/files/2019-06/Guide-Monitoring-Programme-against-the-National-Standards-for-Safer-Better-Maternity-Standards.pdf>.
14. Healthcare Pricing Office, Health Service Executive. *Perinatal Statistics Report 2016*. Dublin: Health Service Executive. 2018. Available from: http://www.hpo.ie/latest_hipe_nprs_reports/NPRS_2016/Perinatal_Statistics_Report_2016.pdf.
15. Health Service Executive. *Maternity and Infant Care Scheme*. 2019. Available from: <https://www.hse.ie/eng/services/list/3/maternity/combinedcare.html>. Accessed.
16. Euro Peristat. *European Perinatal Health Report: core indicators of the health and care of pregnant women and babies in Europe 2015*. Europe: Euro Peristat. 2018. Available from: https://www.europeristat.com/images/EPHR2015_web_hyperlinked_Euro-Peristat.pdf
17. Health Service Executive. *Irish Maternity Indicator System - National Report 2018*. Dublin: Health Service Executive. 2019. Available from: <https://www.hse.ie/eng/about/who/acute-hospitals-division/woman-infants/national-reports-on-womens-health/imis-national-report-2018.pdf>.
18. Central Statistics Office. *Number of Births, Deaths and Marriages 2019*. Available from: https://statbank.cso.ie/multiquicktables/quickTables.aspx?id=vsa02_vsa09_vsa18.
19. Londero AP, Rossetti E, Pittini C, Cagnacci A, Lorenzo Driul L. Maternal age and the risk of adverse pregnancy outcomes: a retrospective cohort study. *BMC Pregnancy and Childbirth*. 2019; 19: pp1-10. Available from: <https://bmcpregnancychildbirth.biomedcentral.com/track/pdf/10.1186/s12884-019-2400-x>.
20. Carolan M. Maternal age ≥ 45 years and maternal and perinatal outcomes: a review of the evidence. *Midwifery*. 2013; 29(5): pp479-89. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/23159159>.
21. Health Act 2004. Dublin: The Stationery Office 2004.
22. Government of Ireland. *Project Ireland 2040 National Planning Framework*. Dublin: The Stationary Office. 2019. Available from: <http://npf.ie/wp-content/uploads/Project-Ireland-2040-NPF.pdf>.
23. Government of Ireland, Health Service Executive. *Capital Plan 2019*. Dublin: Health Service Executive. 2019. Available from: <https://www.hse.ie/eng/services/publications/corporate/hse-capital-plan-2019-2021.pdf>.
24. Health Service Executive, National Women & Infants Health Programme. *National Women and Infants Health Programme Annual Report 2017*. Dublin: Health Service Executive. 2017. Available from: <https://www.hse.ie/eng/about/who/acute->

[hospitals-division/woman-infants/national-reports-on-womens-health/national-women-and-infants-health-programme-report-2017.pdf](#).

25. Health Service Executive. *National Clinical Programmes Review and Recommendations*. Dublin: Health Service Executive. 2019. Available from: <https://www.hse.ie/eng/about/who/cspd/resources/files/chief-clinical-officer-national-clinical-programmes-review-and-recommendations-2019.pdf>.
26. Health Service Executive. *National Maternity Strategy Implementation Plan*. Dublin: Health Service Executive. 2017. Available from: <https://www.hse.ie/eng/services/publications/corporate/national-maternity-strategy-implementation-plan.pdf>
27. Health Service Executive. *The Health Service Executive Performance and Accountability Framework 2018*. Dublin: Health Service Executive. 2018. Available from: <https://www.hse.ie/eng/services/publications/serviceplans/service-plan-2018/operational-plans-2018/performance-and-accountability-framework-2018.pdf>.
28. Holohan T. *HSE Midland Regional Hospital, Portlaoise Perinatal Deaths (2006-date)*. Dublin: Department of Health. 2014. Available from: <https://www.gov.ie/pdf/?file=https://assets.gov.ie/11420/56c3231908dc49c797e1cb0da4f8cf7.pdf#page=1>.
29. Health Information and Quality Authority. *Review of progress made at the Midland Regional Hospital, Portlaoise, in implementing recommendations following HIQA's investigation*. Dublin: : Health Information and Quality Authority. 2016. Available from: https://www.hiqa.ie/sites/default/files/2017-02/MRHP_Review_Report.pdf.
30. Flory D. *A review of the Governance of Maternity Services at Cavan/Monaghan Hospital*. Dublin: Health Service Executive. 2015. Available from: <https://www.hse.ie/eng/services/publications/nursingmidwifery%20services/assurancereviewcavan.pdf>.
31. Flory D. *A review of the Governance of Maternity Services at South Tipperary General Hospital*. Dublin: Health Service Executive. 2015. Available from: <https://www.hse.ie/eng/services/publications/nursingmidwifery%20services/assurancereviewtipp.pdf>.
32. Brown BB, Patel C, McInnes E, Young J, Haines M. The effectiveness of clinical networks in improving quality of care and patient outcomes: a systematic review of quantitative and qualitative studies. *BMC Health Service Research*. 2016; 16: pp1-16. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5018194/pdf/12913_2016_Article_1615.pdf.
33. Manns BJ, Wasylak T. Clinical networks: enablers of health system change. *Canadian Medical Association Journal*. 2019; 191(47): pp1299-305. Available from: <https://www.cmaj.ca/content/191/47/E1299>.
34. Health Service Executive. *Home birth policies and procedures*. Dublin: Health Service Executive. 2019. Available from: <https://www.hse.ie/eng/services/list/3/maternity/new-home-birth-policies-and-procedures/>.
35. Keegan C, Brick A, Wren MA. *An examination of activity in public and private hospitals in Ireland 2015*. Dublin: Economic and Social Research Institute. 2018. Available from: <https://www.esri.ie/publications/an-examination-of-activity-in-public-and-private-hospitals-in-ireland-2015>.

36. Health Service Executive, National Clinical Programme for Paediatrics and Neonatology. *Model of Care for Neonatal Services in Ireland*. Dublin: Health Service Executive. 2015. Available from: <https://www.hse.ie/eng/services/publications/clinical-strategy-and-programmes/model-of-care-for-neonatal-services-in-ireland.pdf>.
37. OECD. *Health at a Glance 2013 OECD Indicators*. Paris: OECD Publishing. 2013. Available from: http://dx.doi.org/10.1787/health_glance-2013-en.
38. Health Service Executive. *Consultant Workforce Planning 2015 Supplementary Report*. Dublin: Health Service Executive. 2015. Available from: <https://rcpi-live-cdn.s3.amazonaws.com/wp-content/uploads/2018/04/Consultant-Workforce-Planning-Supplement-June-2015.pdf>.
39. Health Service Executive. *Obstetrics and Gynaecology*. Dublin: Health Service Executive. 2014. Available from: <https://www.hse.ie/eng/staff/leadership-education-development/met/plan/specialty-specific-reviews/obstetrics-and-gynaecology-2014.pdf>.
40. National Health Service. *Safe, sustainable and productive staffing. An improvement resource for maternity services*. London NHS Improvement. 2016. Available from: https://improvement.nhs.uk/documents/1353/Safe_Staffing_Maternity_final_2.pdf.
41. OAA/AAGBI. *Guidelines for Obstetric Anaesthetic Service 2013*. London: OAA/AAGBI. 2013. Available from: https://www.oaa-anaes.ac.uk/assets/_managed/editor/File/Guidelines/obstetric_anaesthetic_services_2013.pdf.
42. Nursing and Midwifery Board of Ireland. *Scope of Nursing and Midwifery Practice Framework*. Dublin: Nursing and Midwifery Board of Ireland. 2015. Available from: <https://www.nmbi.ie/nmbi/media/NMBI/Publications/Scope-of-Nursing-Midwifery-Practice-Framework.pdf?ext=.pdf>.
43. Nursing and Midwifery Board of Ireland. *Practise Standards for Midwives*. Dublin: Nursing and Midwifery Board of Ireland. 2015. Available from: https://www.nmbi.ie/NMBI/media/NMBI/Practice-Standards-for-Midwives-2015_3.pdf?ext=.pdf.
44. Irish Medical Council. *Guide to Professional Conduct and Ethics for Registered Medical Practitioners (Amended) 8th Edition 2019*. Dublin: Irish Medical Council. 2019. Available from: <https://www.medicalcouncil.ie/News-and-Publications/Reports/Guide-to-Professional-Conduct-and-Ethics-for-Registered-Medical-Practitioners-Amended-.pdf>.
45. Health Service Executive. *National Review of Clinical Audit*. Dublin: Health Service Executive. 2019. Available from: <https://www.hse.ie/eng/services/publications/national-review-of-clinical-audit-report-2019.pdf>.
46. Department of Health. *National Clinical Effectiveness Committee*. 2019. Available from: <https://www.gov.ie/en/collection/74f29c-national-clinical-effectiveness-committee/>.
47. Department of Health, National Clinical Effectiveness Committee. *Irish Maternity Early Warning System (IMEWS) V2 National Clinical Guideline No. 4*. Dublin: Department of Health. 2019. Available from: <https://assets.gov.ie/35807/6f4f5017fd7a466bbb1b77041b19a03c.%20%20Full%20Report>.

48. Department of Health, National Clinical Effectiveness Committee. *Sepsis Management National Clinical Guideline No. 6*. Dublin: Department of Health. 2014. Available from: <https://assets.gov.ie/11620/4678fb449336482fb291a140ef67e570.pdf>.
49. Department of Health, National Clinical Effectiveness Committee. *Communication (Clinical Handover) in Maternity Services: National Clinical Guideline No. 5*. Dublin: Department of Health. 2014. Available from: <https://assets.gov.ie/11623/1a863dde0ded4f02b597ba76c973cf9a.pdf>.
50. Health Service Executive, Institute of Obstetricians and Gynaecologists (Royal College of Physicians of Ireland). *Clinical Practice Guideline Prevention and Management of Primary Postpartum Haemorrhage*. Dublin: Health Service Executive, Institute of Obstetricians and Gynaecologists (Royal College of Physicians of Ireland). 2014. Available from: <https://www.hse.ie/eng/about/who/acute-hospitals-division/woman-infants/clinical-guidelines/prevention-and-management-of-primary-postpartum-haemorrhage.pdf>.
51. Health Service Executive, Institute of Obstetricians and Gynaecologists (Royal College of Physicians of Ireland). *Clinical Practice Guideline Cord Prolapse*. Dublin: Health Service Executive, Institute of Obstetricians and Gynaecologists (Royal College of Physicians of Ireland). 2017. Available from: <https://www.hse.ie/eng/about/who/acute-hospitals-division/woman-infants/clinical-guidelines/cord-prolapse.pdf>.
52. Health Service Executive, Institute of Obstetricians and Gynaecologists (Royal College of Physicians of Ireland). *Clinical Practice Guideline The Diagnosis and Management of Severe Pre-Eclampsia and Eclampsia*. Dublin: Health Service Executive, Institute of Obstetricians and Gynaecologists (Royal College of Physicians of Ireland). 2016. Available from: <https://www.hse.ie/eng/about/who/acute-hospitals-division/woman-infants/clinical-guidelines/diagnosis-and-management-of-severe-pre-eclampsia-and-eclampsia.pdf>.
53. Health Service Executive, National Clinical Programme for Obstetrics and Gynaecology, National Clinical Programme for Anaesthesia, National Clinical Programme for Critical Care. *Guidelines for the Critically Ill Woman in Obstetrics. Version 1.1*. Dublin: Health Service Executive. 2014. Available from: <https://rcpi-live-cdn.s3.amazonaws.com/wp-content/uploads/2016/05/25.-Guidelines-for-the-Critically-Ill-Woman-in-Obstetrics.pdf>
54. Health Service Executive. *Maternity Patient Safety Statement*. 2019. Available from: <https://www.hse.ie/eng/services/list/3/maternity/mpss/>.
55. Health Service Executive. *National Women and Infants Health Programme and the National Clinical Programme for Obstetrics and Gynaecology. Irish Maternity Indicator System. National report 2017*. Dublin: Health Service Executive. 2018. Available from: <https://www.hse.ie/eng/about/who/acute-hospitals-division/woman-infants/national-reports-on-womens-health/imis-national-report-201711.pdf> :
56. Government of Ireland. *Sláintecare Implementation Strategy*. Dublin: Government of Ireland. 2018. Available from: <https://assets.gov.ie/22607/31c6f981a4b847219d3d6615fc3e4163.pdf>.
57. Department of Health. *Sláintecare Action Plan 2019*. Department of Health; Dublin: 2019. Available from: <https://assets.gov.ie/9379/05384619bb2240c18c294b60578117e1.pdf>.
58. Magahy L. *Opening Statement to the Joint Oireachtas Committee on Health*. Presented at the Joint Oireachtas Committee on Health [PowerPoint presentation]

Dublin: 2019. Available from:

https://data.oireachtas.ie/ie/oireachtas/committee/dail/32/joint_committee_on_health/submissions/2019/2019-10-23_opening-statement-laura-magahy-executive-director-slaitecare-programme-implementation-office_en.pdf.

59. Department of Health, Health Service Executive. *A Trauma System for Ireland Report of the Trauma Steering Group*. Dublin: Department of Health. 2018. Available from: <https://assets.gov.ie/10116/70fd408b9ddd47f581d8e50f7f10d7c6.pdf>.

60. McInnes E, Haines M, Dominello A, Kalucy D, Jammali-Blasi A, Middleton S, et al. What are the reasons for clinical network success? A qualitative study. *BMC Health Service Research*. 2015; (15): pp497. Available from: <https://bmchealthservres.biomedcentral.com/track/pdf/10.1186/s12913-015-1096-5>.

61. McInnes E, Middleton S, Gardner G, Haines M, Haertsch M, Paul C et al. A qualitative study of stakeholder views of the conditions for and outcomes of successful clinical networks. 2012; 12: pp1-12. Available from: <https://bmchealthservres.biomedcentral.com/track/pdf/10.1186/1472-6963-12-49>.

62. Health Service Executive. *Ireland East Hospital Group Operational Plan 2018*. Dublin: Health Service Executive. 2018. Available from: <https://www.hse.ie/eng/services/publications/serviceplans/service-plan-2018/operational-plans-2018/ireland-east-hospital-group-operational-plan-2018.pdf>.

63. Murray F. *Report of the NDTP project team on the employment of consultants not registered in the specialist division of the register of medical practitioners*. Dublin: Health Service Executive. 2019. Available from: <https://s3-eu-west-1.amazonaws.com/storage.publisherplus.ie/media.businesspost.ie/uploads/2019/06/15150430/Appendix-1-Final-Report-SDR-Project.pdf>.

64. Health Service Executive. *Final Report of the HSE Midwifery Workforce Planning Project*. Dublin: Health Service Executive. 2016.

65. O'Donoghue K, Sheridan CP, O'Sullivan K, Higgins JR. Timing of birth related to obstetric practice and neonatal outcomes. *Irish Medical Journal*. 2008; (101(7)): pp205-7. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/18807809>.

66. McCraith B. *Strategic Review of Medical Training and Career Structure Final Report*. Dublin: Department of Health. 2014. Available from: https://www.radiology.ie/images/uploads/2012/01/McCraith_Final_Report_300614_FINAL1.pdf.

67. Health Service Executive National Clinical Programme for Obstetrics and Gynaecology. *Consultant workforce planning for obstetrics and gynaecology in the Republic of Ireland 2012-2022*. Dublin: : Health Service Executive. 2011. Available from: <https://www.hse.ie/eng/about/who/acute-hospitals-division/woman-infants/national-reports-on-womens-health/consultant-workforce-planning-for-obgyn-in-ireland-2012-2022.pdf>.

68. The Institute of Obstetricians and Gynaecologists. *The Future of Maternity and Gynaecology services in Ireland 2006 – 2016*. Dublin: Institute of Obstetricians and Gynaecologists 2006. Available from: <https://rcpi-live-cdn.s3.amazonaws.com/wp-content/uploads/2016/0>.

69. Health Service Executive, Office of National Clinical Advisor, Group Lead Acute Hospital Division. *Letter re anaesthetic cover in hospitals with Co-located maternity units*. Dublin: Health Service Executive. 2016. Available from: <https://www.aagbi.org/sites/default/files/Anaesthetic%20Cover%20HSE%20Letter.pdf>.

70. The College of Anaesthetists of Ireland, Health Service Executive National Clinical Programme for Anaesthesia. *Providing Quality, Safe and Comprehensive Anaesthesia Services in Ireland – A Review of Manpower Challenges*. Dublin: The College of Anaesthetists of Ireland. 2014. Available from: <https://www.hse.ie/eng/services/publications/clinical-strategy-and-programmes/providing-quality-safe-and-comprehensive-anaesthesia-services-ireland.pdf>.
71. Draycott T, Sibanda T, Owen L, Akanda V, Winter C, Reading S, et al. Does training in obstetric outcomes improve neonatal outcome? *BJOG*. 2006; 113(2): pp177-82. Available from: <https://obgyn.onlinelibrary.wiley.com/doi/full/10.1111/j.1471-0528.2006.00800.x>.
72. Amatullah A F. Using interprofessional simulation-based training to improve management of obstetric emergencies: A systematic review. *Clinical Simulation in Nursing*. 2018; 14: pp45-53. Available from: <https://doi.org/10.1016/j.ecns.2017.10.014>.
73. University College Cork. *Neonatal Resuscitation Programme*. 2019. Available from: <https://www.ucc.ie/en/neoresus/>.
74. Health Service Executive, Dublin Mid-Lenister Quality and Patient Safety Service. *Final Report Incident Review QPS 50069*. Dublin: Health Service Executive. 2013. Available from: <https://www.hse.ie/eng/services/publications/hospitals/babymolloyrpt/qps50069.pdf>.
75. Health Service Executive, Midland Hospital Portlaoise. *Systems Analysis Review Report Review of Care of Shauna Keyes*. Dublin: Health Service Executive. 2015. Available from: <https://www.hse.ie/eng/services/publications/hospitals/portlaoisereviewcareshaunakeyes.pdf>
76. Health Service Executive. *Maternity Clinical Complaints Review Final Report*. Dublin: Health Service Executive. 2017. Available from: <https://www.hse.ie/eng/services/publications/hospitals/hse-maternity-clinical-complaints-review-may-2017.pdf>.
77. Department of Health. *Health Service Capacity Review 2018 Review of Health Demand and Capacity Requirements in Ireland to 2031*. Dublin: PA Consulting Group. 2018. Available from: <https://assets.gov.ie/10132/7c2a2299ca924852b3002e9700253bd9.pdf>.
78. Goldenhar LM, Brady PW, Sutcliffe KM, Muething SE. Huddling for high reliability and situation awareness. *British Medical Journal Quality and Safety*. 2013; 22: pp899-096. Available from: <https://qualitysafety.bmj.com/content/22/11/899>.
79. Health Service Executive. *HSE National Framework for developing Policies, Procedures, Protocols and Guidelines (PPPGs)*. Dublin: Health Service Executive. 2016. Available from: <https://www.hse.ie/eng/about/who/qid/use-of-improvement-methods/nationalframeworkdevelopingpolicies/hse-national-framework-for-developing-policies-procedures-protocols-and-guidelines-pppgs-2016.pdf>.
80. World Health Organization. *Surgical Safety Checklist*. Geneva: World Health Organization. 2009. Available from: https://apps.who.int/iris/bitstream/handle/10665/44186/9789241598590_eng_Checklist.pdf;jsessionid=371FEED2BDF4FCE082CCC109F64AA8B0?sequence=2.
81. Leitao S, Manning E, Corcoran P, Greene RA, on behalf of the Severe Maternal Morbidity Group. *Severe maternal morbidity in Ireland annual report 2017*. Cork: National Perinatal Epidemiology Centre. 2019. Available from:

<https://www.ucc.ie/en/media/research/nationalperinatalepidemiologycentre/SMMReport2017280819WebLinked.pdf>.

82. Department of Health. *Children, Young People and Maternity Services Health Building Note 09-02: Maternity care facilities*. United Kingdom: Department of Health. 2013. Available from:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/147876/HBN_09-02_Final.pdf.

83. Department of Health. *Health Building Note 09-03: Neonatal Units*. London: Department of Health. 2013. Available from:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/147879/HBN_09-03_Final.pdf.

84. Health Information and Quality Authority. *National Standards for the prevention and control of healthcare-associated infections in acute healthcare services*. Dublin: Health Information and Quality Authority. 2017. Available from: <https://www.hiqa.ie/sites/default/files/2017-05/2017-HIQA-National-Standards-Healthcare-Association-Infections.pdf>.

85. National Health Service. *HBN 26 Facilities for Surgical Procedures: Volume 1*. Norwich: The Stationary Office. 2004. Available from:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/148490/HBN_26.pdf.

86. National Perinatal Epidemiology Centre. *Severe Maternal Morbidity in Ireland Annual Report 2016*. Cork: 2018. Available from:

<https://www.ucc.ie/en/media/research/nationalperinatalepidemiologycentre/SevereMaternalMorbidityinIrelandAnnualReport2016.pdf>.

87. O'Farrell IB, Manning E, Corcoran P, Greene RA, on behalf of the Perinatal Mortality Group. *Perinatal Mortality in Ireland Annual Report 2017*. Cork: National Perinatal Epidemiology Centre. 2019. Available from:

<https://www.ucc.ie/en/media/research/nationalperinatalepidemiologycentre/NPECPerinatalMortalityinIrelandAnnualReport2017.pdf>.

88. Corcoran P, Drummond L, Twomey A, Murphy BP, Greene RA, on behalf of NICORE Republic of Ireland. *Mortality risk amongst very low birth weight infants born in the Republic of Ireland 2014-2016*. Cork: National Perinatal Epidemiology Centre. 2019. Available from:

<https://www.ucc.ie/en/media/research/nationalperinatalepidemiologycentre/NPECMortalityRiskVON2014-6300718V2PressReady.pdf>.

89. Health Service Executive, Office of Nursing and Midwifery Services Director Quality Care Metrics Project Group. *National guideline for nursing and midwifery quality care metrics data measurements in acute care*. Dublin: Health Service Executive. 2018. Available from:

<https://www.hse.ie/eng/services/publications/nursingmidwifery%20services/national-guideline-qcm-acute.pdf>.

90. Royal College of Obstetricians and Gynaecologists. *Maternity Dashboard: Clinical Performance and Governance Score Card (Good Practice No. 7)*. London: Royal College of Obstetricians and Gynaecologists. 2008. Available from:

<http://www.rcog.org.uk/womens-health/clinical-guidance/maternity-dashboard-clinical-performance-and-governance-score-card>.

91. Health Service Executive. *Your Service Your Say. The Management of Service User Feedback for Comments, Compliments and Complaints HSE Policy*. Dublin:

Health Service Executive. 2017. Available from:

<https://www.hse.ie/eng/about/qavd/complaints/ysysguidance/ysys2017.pdf>

92. National Health Service, National Maternity Review. *Better Births Improving Outcomes of Maternity Services in England A Five Year Forward View for maternity care*. United Kingdom: National Health Service. 2016. Available from:

<https://www.england.nhs.uk/wp-content/uploads/2016/02/national-maternity-review-report.pdf>.

93. Health Service Executive. *Incident Management Framework*. Dublin: Health Service Executive. 2018. Available from:

<https://www.hse.ie/eng/about/qavd/incident-management/hse-2018-incident-management-framework-guidance-stories.pdf>

94. State Claims Agency. *National Clinical Incidents, Claims and Costs Report: lessons learned, a five year review: 2010-2014*. Dublin: State Claims Agency. 2017.

Available from: <https://stateclaims.ie/uploads/publications/State-Claims-Agency-National-Clinical-Incidents-Claims-and-Costs-Report.pdf>.

95. Carlford S, Ohm A, Gunnarsson A. Experiences from ten years of incident reporting in health care: a qualitative study among department managers and coordinators. *BMC Health Service Research*. 2018; 18(113). Available from:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5813432/>.



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